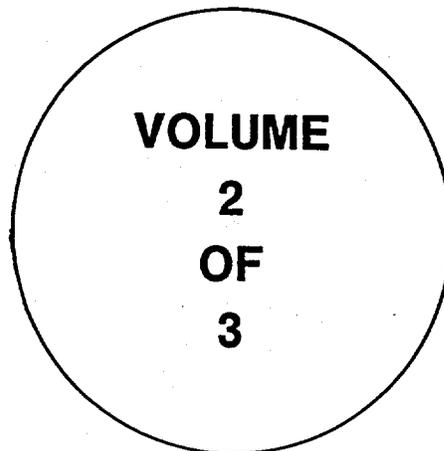


**COMPENDIUM
OF
VERBATIM STATEMENTS
ON VERIFICATION**



**THE CONFERENCE OF THE
COMMITTEE ON DISARMAMENT
1969 - 1978**

**ARMS CONTROL AND DISARMAMENT DIVISION
DEPARTMENT OF EXTERNAL AFFAIRS
OTTAWA, CANADA**

**OCTOBER 1985
Dept. of External Affairs
Min. des Affaires extérieures**

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COMPENDIUM

OF

VERBATIM STATEMENTS ON VERIFICATION

VOLUME II

THE CONFERENCE OF THE COMMITTEE ON DISARMAMENT

1969-1978

43-742-691

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Compendium of Verbatim Statements on Verification

Preface

This volume is compiled from the Provisional Verbata of the United Nations Conference of the Committee on Disarmament (CCD) which met in Geneva from 1969-1978. It contains the major statements made on the issue of verification of arms control and disarmament proposals. It is intended to be used as a resource volume to provide easy access to statements on national positions on verification and to aid those who wish to investigate the development of those positions over a period of time.

The statements are presented in chronological order. To aid in the use of this volume, the List of Verbatim Statements by Issue organizes the statements according to the arms control issue being discussed. There were six major issues discussed in the CCD: chemical and biological weapons, chemical weapons, a comprehensive test ban, the prohibition of nuclear weapons on the sea-bed, peaceful nuclear explosions and the peaceful uses of nuclear energy, and the prohibition of environmental modification for hostile purposes. Also discussed were a cut-off of production of fissionable materials, international verification and international disarmament organizations. The List of Verbatim Statements by Nation organizes the statements by nation. A coded reference is included in this list to indicate the issue being discussed in each statement.

The statements were originally compiled during a study on national positions on verification conducted in 1983 at the Centre for International Relations for the Department of External Affairs. The collection was expanded in 1984 during a period of research at the United Nations Institute for Disarma-

ment Research, Geneva, which was made possible by the Department of External Affairs. The assistance of Mrs. Mary Kerr, who diligently transcribed the statements and assisted in the proof-reading, has been invaluable in preparing these volumes.

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Explanation of Issue Codes:

- C-O: Cut-off of Production of Fissionable Materials
- CBW: Chemical and Biological Weapons
- CGD: Complete and General Disarmament
- CTB: Comprehensive Test Ban
- CW: Chemical Weapons
- ENMOD: Environmental Modification
- IDO: International Disarmament Organization
- IVO: International Verification Organization
- LA: Latin American Nuclear Free Zone
- NB: Neutron Bombs
- NFZ: Nuclear Free Zones
- NPT: Non-Proliferation Treaty
- PNE: Peaceful Nuclear Explosions, Peaceful Uses of Nuclear Energy
- SB: Prohibition of Nuclear Weapons on the Seabed
- VER: Verification in General

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| CCD/PV.476 | pp.7-9 | Vejvoda | 7.7.70 | SB | 70 |
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37. Another aspect which has been commented upon at length in the Committee is that of the observation and verification of possible violations of the provisions of a treaty on the disarmament of the sea-bed and the ocean floor. It has been made clear that the solutions proposed for this purpose in the two drafts (ENDC/240, ENDC/249) before us do not entirely satisfy most of the representatives of the medium-sized and small States.

38. My delegation considers that the treaty should include the broadest possible methods of control which would allow for verification by all the States concerned, although this does not mean that the rights of the coastal States as regards their security and their respective legislations would not be taken into account. This peculiar situation to which the projected treaty would lead distinguishes it from other international instruments. For this reason it is not possible to formulate analogies with outer space. Nor is it possible to do so with the Antarctic Treaty. [United Nations Treaty Series, vol.402, p.71 et seq.] Argentina duly delimited its sector and, in conformity with article IV of that instrument, none of its provisions is to be interpreted as a renunciation of Argentina's sovereign territorial rights. It is obvious that this condition does not modify the free access of the contracting parties to Antarctica for the purposes of scientific research and the non-militarization provided for in that Treaty.

39. In his statement on 29 July, the representative of Brazil suggested:

"...that the process of control should be undertaken, in any of its stages, with the direct participation of the coastal State whenever the simple observation and consequent verification ... is to take place in areas over which that coastal State exercises special national jurisdiction." (ENDC/PV.423, para.77)

Ambassador Frazao very rightly pointed to the existence for each coastal State of the right to prior notification of and co-participation in any inspection carried out in an area adjacent to its coast. As the representative of Brazil said, in a treaty solely designed to prevent the adoption of armament measures on the sea-bed there is no place for any ambiguity or controversy resulting from different legal positions concerning the extent of national jurisdiction (ibid., para.80).

40. My delegation referred earlier to the concept of a security zone of 200 miles or which would, in any case, cover the continental shelf. This initiative and that of the Brazilian delegation have the undoubted merit of considering the interests of the coastal States and could be combined very easily in a single text for examination by the Committee.

15. Lastly, in regard to the question of verification, we should like to recall that in its statement on 31 July the Romanian delegation said that it was:

"...in favour of the establishment of an effective international system of control which would be carried out through an appropriate body designed to serve exclusively the purpose of verifying fulfilment of the obligations assumed under the treaty." (ENDC/PV.424, para.85)

On the same occasion the Romanian delegation declared:

"It goes without saying that all States expressing the desire to do so must have the opportunity of participating in such control machinery. It is also necessary for the system of control established by the treaty to take into account the interests of all States, large and small, without any discrimination whatsoever: in other words, the provisions concerning control must give expression to the actual equality of the States participating in the future agreement." (ibid.)

16. We are convinced that the verification system thus conceived would be both effective and impartial by offering all Parties the guarantee that the provisions of the treaty would be implemented in accordance with their spirit and their letter. At the same time it would create conditions for effective participation in the exercise of control by small and medium-sized countries which, in view of the technological gap separating them from the major Powers, do not have the necessary means to make sure by themselves that the agreement to which they are parties is respected.

17. In so far as the control provisions are concerned, we consider that particular attention will have to be given to their effects on the continental shelf. To put it more clearly, account will have to be taken of the need to harmonize the provisions concerning control with the rules governing the continental shelf system. Unlike the territories under the sea located beyond the limits of national jurisdiction, which are not as yet governed by crystallized rules of international law, the marine soil and subsoil within the limits of national jurisdiction come within the scope of clearly defined rules of international law. For example, access to those territories is already the subject of certain regulations, with which the agreement on demilitarization must not clash. In this connexion we think it useful to recall the provisions of paragraph 8, article 5 of the Convention on the Continental Shelf, according to which "the consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there."

18. The basic requirement concerning the consent of the coastal State is also repeated in resolution 2467 D (XXIII) of the United Nations General Assembly relating to the International Decade of Ocean Exploration. The first paragraph of the operative part dealing with scientific research and exploration within the framework of the programme which is the subject of that resolution provides that:

"...all such activities falling under the national jurisdiction of a State shall be subject to the previous consent of such State, in accordance with international law".

19. If the consent of the coastal State is stipulated as a fundamental condition in respect of research of a scientific nature, obviously it is all the more necessary when it is a question of activities to verify how the commitments assumed by States under the terms of the future treaty on demilitarization of the territories under the sea are carried out.

20. Those are the reasons for which the Romanian delegation, together with the delegations of Brazil, of your own country, Mr. Chairman, of Argentina and of other States, declares itself in favour of the idea of incorporating in the treaty a clause dealing with the consent of the coastal State, which should precede control operations on the continental shelf.

CCD/PV.434 pp.27-28

Yugoslavia/Bozinovic

4.9.69

SB

94. Now I should like to turn briefly to the problem of control. We believe that control of the implementation of the treaty obligations should be based on the concept of free access to and inspection, including the necessary consultations, of all installations and equipment on the sea-bed and ocean floor outside the exempted zone.

95. It appears that for the time being only a very small number of States are capable of exercising or might be interested to exercise control on all geographic points of the seas and oceans. Most of the countries apparently do not have at their disposal the necessary means for such control. For many countries interest in participation in control would perhaps be limited to the continental shelf and seas in their vicinity. That is why we believe there is good reason to consider leaving open in the treaty the possibility

also for countries to exercise their rights in relation to control through an eventual international control organization. We are of course aware that it would not be rational to create immediately an international organization for that purpose. What we have in mind is a provision which would open the possibility for the future.

96. Apart from these aspects of the control issue there are others, some of which I would like to mention.

97. The control which would be exercised in the zone of the continental shelf would normally be of particular interest to the coastal States. The question of the manner and the degree of participation of such States in control in this case should in our view be the subject of our further study and more detailed examination. The working paper submitted (ENDC/PV.433) in this regard by the representative of Brazil, Ambassador Frazao, on 21 August (ENDC/264) is a valuable contribution in this respect and deserves our full attention. My Government is studying it with great care.

98. The role of small and medium-sized countries in the exercise of control has also been mentioned. One means of their active contribution to the control might be covered by a provision requesting all States parties to the treaty to inform other signatories of activities and events noticed on the high seas which might deserve attention in connexion with this treaty. Such information, containing necessary data, could help the implementation of control under the treaty.

99. Apart from this, we believe that one should also consider the possibility of introducing an obligation that all countries which have carried out control of a certain object in relation to a sea-bed treaty should make public the result of such a step. In this way perhaps the implementation of the treaty would be made easier.

CCD/PV.435 p.6

Mexico/Castenada

9.9.69 LA, CBW

6. As regards the control system of the Treaty, the Secretary-General made some important observations to which I should like to draw your attention, among other reasons, because they relate to our present tasks. He recalled first of all that the Treaty of Tlatelolco has already created some precedents in the field of control, adding that:

"The provisions of the Treaty concerning the application of the International Atomic Energy Agency safeguards system were officially recognized as having provided the basis for a somewhat similar provision in the Non-Proliferation Treaty." (*ibid.*)

The Secretary-General further recalled that the Treaty of Tlatelolco also establishes a form of "complaints procedure" which has been used as a guide in other draft instruments. Indeed, I venture to add that in the section on control in the Treaty of Tlatelolco, and particularly in article 16, it is provided that any Party which suspects that some activity prohibited by the Treaty has been carried out or is about to be carried out may lodge a complaint with the Council of the Agency with a view to its investigating the matter. Taking into account the differences in respect of environment, organs and other elements which derive from the very scope of the two instruments, the United Kingdom revised draft Convention for the Prohibition of Biological Methods of Warfare (ENDC/255/Rev.1) provides, in article III, for a similar control system.

CCD/PV.440 p.7

USSR/Roshchin

7.10.69

SB

14. The provisions concerning a specific system of control are an important part of the treaty. They include the right of States parties to the treaty to verify the activities of

other States parties on the sea-bed and the ocean floor and in the subsoil thereof beyond the twelve-mile zone, if these activities raise doubts concerning the fulfilment of the obligations assumed under this treaty, without interfering with such activities or otherwise infringing rights recognized under international law, including the freedoms of the high seas. Provision is also made for consultation and co-operation among parties to the treaty in order to remove doubts concerning the fulfilment of the obligations assumed under the treaty.

15. In elaborating the verification provisions the views of various delegations in this regard were taken into account. Thus many delegations expressed the wish that, for the purpose of the widest possible participation of States in the practical conduct of verification of the treaty provisions, the right should be provided to ask other parties to the treaty to extend assistance in this matter. That suggestion was adopted and is reflected accordingly in the text of the draft treaty.

16. The system of control provided for in the draft treaty will thus ensure effective verification of the implementation of the treaty, as well as equal rights for each State party to the treaty to participate in the exercise of control, without creating obstacles to unprohibited activities on the sea-bed and the ocean floor.

CCD/PV.440 pp.10-11

USA/Leonard

7.10.69

SB

32. There has already been a good deal of discussion in the Committee concerning possible elements of a verification provision for the sea-bed treaty. We in the United States delegation have explained in plenary statements as well as in informal discussions the reasons that led us to conclude that the requirement for verification is dependent on the nature of the prohibition. Based on this conclusion, and in view of the difficulties of the sea-bed environment and the limitations of available technology, we believe that the right to verify set forth in article III would be appropriate for this treaty. This provision would ensure that parties would be able to check compliance with the treaty, taking into account both the rights and the obligations which they have under international law, including the freedom of the high seas. At the same time legitimate activities on the sea-bed would not be subject to interference. For example, the provision does not imply the right of access to sea-bed installations or any obligation to disclose activities on the sea-bed that are not contrary to the purposes of the treaty.

33. A number of delegations have made clear that they might wish to consider obtaining assistance from other States in carrying out verification. As provided in paragraph 2 of article III, the treaty recognizes that verification may be carried out by a party either by its own means or with the assistance of any other party, thereby facilitating participation by all parties regardless of their technological capabilities. The verification article also includes a commitment by the parties to consult and co-operate in order to clear up questions which might arise about fulfilment of the obligations of the treaty.

CCD/PV.441 pp.6-9

Canada/Ignatieff

9.10.69

SB

6. We believe that the verification procedures, to be generally acceptable as giving such an assurance, should be based on two criteria: first, they must, to the satisfaction of all signatories, detect any significant breaches of the treaty with a minimum of delay, providing in the last analysis incontrovertible evidence; and secondly, they must be in accord with and support the existing Law of the Sea as it affects the interests of coastal States.

7. From the draft presented to us by the co-Chairmen we know the engagements which

their Governments are willing to accept in prohibiting the extension of the nuclear arms race to the sea-bed. What we want to know now is, what engagements are the two Powers willing to accept in relation to others, especially the many coastal States, that these engagements will be kept, and what procedures are they willing to agree to in the event that any State has reasonable concern that a threatening installation may have been observed on the sea-bed clearly within its jurisdiction as defined under the existing Law of the Sea? In other words, what we want to know is just how the "right to verify" specified in article III of the co-Chairmen's draft is to be exercised.

8. It has been the view of some delegations that, if this treaty is to be truly multi-lateral in nature and to achieve widespread adherence, it must contain more than a verification clause adequate for a limited number of signatories, even if those signatories are the most important signatories. The Canadian delegation suggests that, in order to meet the basic criteria to which I have referred, there are three important aspects of the verification problem which must receive more detailed treatment in any article which might ultimately be accepted by this Committee.

9. In the first place, there must be some mechanism to ensure that, in the final analysis, disputes regarding verification can be resolved once the concern of a State is engaged that the treaty is not being fully complied with.

10. There must also be provisions in the article which would guarantee the ability of all signatories to share in the verification procedures, either independently or in co-operation with other parties, so that signatories should not be at any unfair disadvantage owing to lack of the necessary technology or skill.

11. The other main concern is that there should be a clear re-statement of the pertinent rights of coastal States under existing international law, so that these States may be assured that these rights are fully protected under the treaty now under negotiation. When the subject matter of such a treaty deals specifically with areas of vital interest to States expected to become parties, States are unlikely to accept wording which leaves these issues unclear, or which is claimed to provide protection by indirection. Broad acceptance can be achieved only by ensuring that the draft treaty is clearly fitted into the totality of the existing framework of international law. Viewed against these criteria, the provisions in the draft treaty submitted by the co-Chairmen require, in the view of the Canadian delegation, careful examination.

12. Bearing in mind these considerations, I should now like to turn to a very short explanation of the specific points in our working paper.

13. Paragraph 1, which seeks to impose on parties the obligation to recognize existing rights, is in keeping with the proposition that the relevant rights of States under international law should be re-stated and taken fully into account in this treaty. It also provides specifically for what is clearly the first step in the verification article of the joint draft co-sponsored by the co-Chairmen: the right to observe.

14. Paragraph 2 provides an outline of what would be the second step in a verification effort — the right of all parties to consult and an undertaking to co-operate in attempting to resolve difficulties which might arise.

15. Paragraph 3 is the point at which our proposal begins to go beyond the verification article put forward by the co-Chairmen. While the co-Chairmen have provided indirectly for observation and consultation, the phrase "right to verify" is open to several interpretations, some of which are not very reassuring.

16. It is our view that this concept of verification stops short of providing precisely how the concern of a State is to be adequately met if the second step of bilateral consultation and co-operation fails. The procedure envisaged in our working paper is that the State or States controlling the installation or facilities in question will be given notice of the desire to carry out verification by inspection, without — I emphasize "without" — interfering with the activities involved.

17. Paragraph 4 would provide for ultimate recourse to the Security Council, if the necessary co-operation of such States were not forthcoming. It can be argued that parties already have the right, under the Charter, to raise such issues in the Security Council. But we believe that specific reference to this right will serve to provide assurance that complaining States retain the right of having recourse to the Security Council if the suspected non-compliance gives sufficiently serious concern.

18. It is also in this paragraph that the question of "access" is raised. Such access as an ultimate recourse must be provided, we believe, in order to ensure credibility for the whole verification process. We cannot emphasize too strongly, however, that this provision would be activated only as a last resort, should all other attempts to resolve the point at issue fail, and should be in accordance with the existing Law of the Sea. Otherwise, how can we speak of a credible "right to verify"?

19. In paragraph 5 an attempt is made to meet more fully the concern of the less technologically developed States that verification should be available to allay any doubts they might have about specific events. Sub-paragraph 5(a) provides for third-party assistance, either bilaterally — a provision whose inclusion in the co-Chairmen's draft the Canadian delegation welcomes — or through the good offices of the Secretary-General of the United Nations. Sub-paragraphs 5(b) and (c) set out suggestions regarding details of the procedures and obligations surrounding a request for assistance in carrying out necessary verification inspection processes, to be channelled through the Secretary-General.

20. In paragraph 6 we have sought to point up as fully as possible the rights of coastal States under international law, and particularly under the 1958 Geneva Convention on the Continental Shelf.[United Nations Treaty Series, Vol.499, pp.311 et seq.]. Through the provision for prior notification to coastal States regarding possible verification on their continental shelf and for their association in a manner acceptable to both parties in the actual verification, the treaty would ensure that the relevant rights of coastal States under international law could be fully protected.

21. Paragraph 7 of our paper is a routine, although important, clause under which all parties to the treaty undertake to co-operate to implement the article on verification.

22. Paragraph 8, which envisages inclusion of review provisions in the final treaty, confirms that the procedures of verification, which will obviously have to be altered in the light of experience and changing technology, should be one of the subjects of any such review conference.

23. In concluding, I would make the more general remark that modern technology, with its restless urge for constant innovation, is hardly consistent with such static concepts in the co-Chairmen's draft as the veto power on the right to amend the treaty and the lack of provision for review.

24. In submitting these proposals regarding verification, the Canadian delegation approaches the problem with no sense of finality or infallibility, still less of inflexibility. Francis Bacon wisely said: "If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties." So with the contents of this paper: we seek to establish certainties only in respect of principles and of the law, allowing for flexibility as to the language and the means, until we are agreed on the objectives.

25. If the contents of our working paper on verification seem long in relation to the co-Chairmen's draft treaty, or excessively detailed, I would point out that the concept of the "right to verify" requires clarification in some detail, point by point, if the result is to be regarded as effective by the many governments which will wish to be assured about compliance with the terms of the treaty before they decide whether or not to sign it.

26. As to form, our working paper attempts a certain precision of language as an aid to

further consultations because, as I am sure we are all agreed, the time for generalities is past and the time for negotiation is at hand. It is not an amendment at this stage, but rather a checklist of verification procedures directly related to the implementation of the right to verify contained in the co-Chairmen's draft treaty. Our working paper, therefore, which tries to clarify and define the procedures which would be open to the signatories of the treaty under the right to verify, should, I suggest, be examined by this Committee along with article III of the co-Chairmen's draft.

CCD/PV.441

pp.10-13

Italy/Caracciolo

9.10.69

SB

32. I shall therefore begin with a first examination of article III, and I should like to say immediately and very frankly that it appears to us inadequate in its present wording. We think indeed that the problem of control constitutes a complementary and necessary aspect of disarmament measure, without any exception whatsoever, and that it assumes a substantive character as the application of a general principle. The joint declaration made by the United States and the Soviet Union on the principles agreed in 1961 for negotiations concerning general and complete disarmament leaves no room for doubt in this respect; paragraph 6 of the agreed statement says that "All disarmament measures should be implemented from beginning to end under ... strict and effective international control ..." (ENDC/5)

33. There is no need for a lengthy demonstration to recall that the same problem of control was the crucial point in all the negotiations leading to the conclusion of the non-proliferation Treaty (ENDC/226). During the discussions prior to its approval article III was the one that gave rise to the most discussion and controversy. The serious commitments undertaken by the non-nuclear States with regard to control are undoubtedly one of the fundamental characteristics of that important instrument for peace and international co-operation. It should also be recalled that the discussions on the drafting of a treaty for the discontinuance of underground nuclear tests which were carried on in this Committee during several sessions, and became highly technical, have so far foundered on the fundamental problem of setting up control machinery capable of providing the necessary guarantees of compliance with the provisions of the treaty.

34. In one of my previous statements I asked:

"Why ... the need for an international control body has been so strongly felt in the case of the Treaty on the Non-Proliferation of Nuclear Weapons, why it is so laboriously sought with a view to the conclusion of an agreement on underground nuclear explosions or an agreement on the limitation of the production of fissionable materials, while it is rejected in the case of the demilitarization of the sea-bed and the ocean floor."
(ENDC/PV.410, para.53)

35. According to these general considerations and in conformity with the principle which requires that any disarmament measure, to be effective, must create identical rights and duties for all signatories, the Italian delegation has constantly affirmed the necessity of establishing adequate international machinery to guarantee compliance with the provisions of the treaty on the denuclearization of the sea-bed and the ocean floor. If we have not proposed rigid formulas or complicated solutions, it is because we are perfectly aware of the delicate and complex aspects of the problem and the cost of setting up new and cumbersome international structures.

36. However, we wish to stress once again that it is essential that the principle of international responsibility in the matter of control should be recognized in the provisions of the treaty. In other words, an adequate procedure introducing -- through machinery to be determined -- recourse to international organizations must be estab-

lished; and this both on account of the principles I have mentioned and because of the legitimate concern of States with very long coastlines at seeing certain of their inalienable sovereign rights — such as that concerning the continental shelf, which is recognized by the Geneva Convention of 1958[United Nations Treaty Series, Vol.499, pp.311 et seq.] — threatened by unjustified verification operations which might be carried out by other States.

37. In this connexion we listened with interest to the declaration made by the representative of the United States of America at the meeting on 7 October, when he said:

"...legitimate activities on the sea-bed would not be subject to interference. For example, the provision does not imply the right of access to sea-bed installations or any obligation to disclose activities on the sea-bed that are not contrary to the purposes of the treaty." (CCD/PV.440, para.32)

38. We consider that this declaration is particularly helpful. However, it seems to us necessary that this concept should be made more precise and complete in the actual text of the treaty. Moreover, if the States which adhere to the agreement now under discussion consider themselves to be threatened by the real or suspected activities of other States, they must be able to avail themselves of the guarantees provided by the treaty without the need to have recourse to the optional assistance of the technologically more advanced States.

39. Against these requirements it might of course be objected that in fact the treaty to be concluded on the basis of the joint draft of the co-Chairmen concerns nuclear weapons exclusively, and that consequently only the nuclear Powers are affected by the problem of the control relating thereto. We cannot accept that thesis. In the first place, the treaty certainly refers to nuclear weapons, but it refers also to all weapons of mass destruction; and we cannot be certain today that in the future this expression will continue to indicate only nuclear weapons. But there seems to be another reason for not accepting that thesis. The preamble to the draft treaty in fact says explicitly that "This Treaty constitutes a step towards a Treaty on General and Complete Disarmament under strict and effective international control..." (CCD/269). Therefore this concept should logically, in our opinion, and even from the strictly legal point of view, find its concrete application in the operative part of the treaty.

40. For all the reasons I have just explained we consider that the working document (CCD/270) submitted today by the Canadian delegation contains extremely interesting and useful suggestions, and that consequently it deserves the fullest attention of this Committee and commends itself most particularly to the consideration of the co-Chairmen.

41. Finally, it seems to us that the suggestions formulated by the delegation of Brazil in its working document of 1 September last (CCD/267) concerning the settlement of disputes to which the application of the treaty might give rise also deserve close study.

CCD/PV.442 p.7

Japan/Nakayama

14.10.69

SB

10. Let me now turn to the problem of verification. In the light of present technological standards we shall have to be content with the observation and consultation procedures provided for in article III of the draft treaty. We welcome paragraph 2 of article III, which guarantees that less technologically developed States will share in the verification procedures with the assistance of more advanced States; and we hope that the procedures of verification, including the setting up of international mechanism, will be examined in the light of technological developments and experience.

CCD/PV.442 pp.10-11

Netherlands/Eschauzier

14.10.69

SB

23. Let me now turn to the issue of verification. We listened with great interest to the statements on 9 October of Mr. Ignatieff (CCD/PV.441) and Mr. Caracciolo (*ibid.*, paras.32-41); and we have also studied carefully the Brazilian working documents ENDC/264 and CCD/267. We agree with the argument that the draft treaty is by its nature of primary concern to the nuclear Powers, but we also see the relevancy of many of the arguments put forward by others and recently so clearly expressed in the intervention of Mr. Caracciolo to which I have just referred. We therefore share the view that some form of internationalization of the verification procedure would be desirable. In our opinion this could be achieved, inter alia, by adding to article III a special reference to the already existing right of States parties to the treaty to have recourse to the Security Council in case of failure to co-operate.

24. In principle we see merit also in the Canadian proposal that coastal States should be notified of the initiation of verification procedures on the continental shelf of those States (CCD/270, para.6(b)). The modalities of such a procedure are still to be examined more closely and should in our opinion be limited to special situations which clearly differ from observations of a routine character. We have taken note of the Canadian view that coastal states should be associated with verification only in a manner acceptable to both parties (CCD/PV.441, para.20). In this connexion we should like to state that in our view the practical problems arising with regard to verification in the environment of the sea-bed and the ocean floor are not fully comparable with those of verification procedures on the territories of sovereign States -- for instance, the safeguards or control measures of the International Atomic Energy Agency which are being discussed in the context of a comprehensive test ban.

CCD/PV.443 pp.9-10

Sweden/Edelstam

16.10.69

SB

14. In a statement in the Committee on 24 July our delegation suggested that the coastal State should have the exclusive right to military uses of the sea-bed within the twelve-mile zone and also exclusive rights and obligations as far as verification of the treaty provisions within that zone was concerned (ENDC/PV.422, para.49). We then had it in mind -- and we continue to hold the view -- that this exclusive right of the coastal State within the twelve-mile zone should be spelt out in the treaty text. There are after all a number of States, including my own, which claim territorial seas more limited than twelve nautical miles. We therefore hope that the text of the treaty can be amended in order to cover this point. This wish refers both to article I and to the verification article.

15. Turning now specifically to the verification provisions in the present draft treaty, viz. article III, we share the views already expressed by several representatives as to their clear insufficiency. The delegation of Canada has made an important attempt to remedy this situation by presenting its working paper on article III (CCD/270). The representative of Canada, Mr. Ignatieff, when introducing the working paper, pointed out that it was not an amendment at this stage but rather -

"...a checklist of verification procedures directly related to the implementation of the right to verify contained in the co-Chairmen's draft treaty."
(CCD/PV.441, para.26)

Seen in that light, the Canadian paper is most valuable and should give us all food for thought and for further constructive negotiations.

16. I stressed at the beginning of this statement the importance of a credible verifica-

tion system for the acceptance by the vast majority of States of a denuclearization treaty. Mr. Ignatieff very eloquently listed some basic criteria on which such generally-acceptable verification provisions should be based: the inclusion of some mechanism for solving disputes regarding verification; some guarantees that all parties can in effect share in the verification process; and assurances as to the protection of the special interests and rights of the coastal State (*ibid.*, paras.9-11).

17. The present article III does not, in the opinion of the Swedish delegation, entirely cover those basic criteria, nor does it provide sufficient clarity as to the meaning of the word "verification" as used. However, it should surely not prove to be beyond the ability of the members of this Committee to arrive at a solution in treaty language acceptable to all. My delegation is ready to take part during the coming days in joint attempts to arrive at such a solution.

CCD/PV.443 pp.12-13

Bulgaria/Christov

16.10.69 SB

28. Lastly, a third category of problems concerns verification measures. We fully understand the care that this problem merits and the caution shown in regard to it. Nevertheless, and without wishing to underestimate its importance in any way, we think that in the case with which we are concerned it should be considered within the framework of the draft treaty with due regard to the actual possibilities and the specific circumstances in which possible verification activities would have to take place. Verification is not an end in itself and in no case can it go beyond certain limits fixed within the actual framework of the treaty. As has already been observed, the requirement for verification is dependent on the nature of the prohibition. In the case of a treaty prohibiting the installation of nuclear weapons on the sea-bed and in the subsoil thereof, the primary objective of verification measures is obviously to ensure compliance with its provisions without prejudicing in any way the recognized rights of States or constituting an obstacle to activities not prohibited under the terms of the treaty.

29. In the view of my delegation, special attention should be paid to the commitments provided for in paragraphs 2 and 3 of article III of the draft treaty. The provision under which each State party may exercise its rights of verification either by its own means or with the assistance of any other State party widens the basis of verification possibilities.

30. On the other hand, we are happy to find again the concepts of consultation and co-operation set out in paragraph 3 of article III. This paragraph stipulates that States parties to the treaty undertake to consult and to co-operate with a view to removing doubts concerning the fulfilment of the obligations assumed under the treaty. We know that the principles of international consultation and co-operation underlie or have a large place in certain international instruments, such as the Antarctic Treaty [United Nations Treaty Series, vol.402, pp.71 et seq.], the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space (General Assembly resolution 2222 (XXI), Annex), and the Treaty on the Non-Proliferation of Nuclear Weapons (ENDC.226, Annex). The reaffirmation of those principles in the draft treaty is, in our view, further proof of the need to adopt the practice of international consultation and co-operation as absolutely indispensable factors in the achievement of any disarmament measure and of any verification system that is part of it. In our view it would be useful to specify in the text the line to be followed in this respect; and I believe that recourse to a body such as the Security Council might be envisaged for this purpose.

CCD/PV.443 pp.17-18

Czechoslovakia/Lahoda

16.10.69

SB

46. As for the most widely discussed article concerning control, we appreciate the principle contained in paragraph 2 of article III according to which every State party to the treaty has the right to carry out verification with the assistance of another member State. In this connexion we regard it as appropriate to include in the treaty a provision granting the possibility of applying to the Security Council to secure the necessary co-operation that would make the right of verification practicable. We do not see any reason why it should not be fixed in the text of the proposed agreement, since in this case it seems to be only a formal acknowledgement of something which in reality exists.

47. On the other hand, we do not share the view of those delegations which are advocating the establishment of a special international mechanism of verification to supervise and to check the observance of the undertakings resulting from the denuclearization of the sea-bed. Such a measure does not appear to us to be necessary either from the point of view of the content of the treaty or from the point of view of financial costs. We have only to point out the frequent comparisons of this treaty, as far as its preventive character is concerned, with the Antarctic Treaty [United Nations Treaty Series, vol.402, pp.71 *et seq.*] and the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), Annex). As far as we know, neither of them contains a provision concerning an international control organ. We hold that in the case of a ban on the emplanting or emplacing of nuclear and other weapons of mass destruction on the sea-bed and the ocean floor it is not necessary to establish and to maintain an expensive international control institution.

48. In spite of the successes achieved in penetrating the ocean depths, human possibilities in this environment are, and for some years to come will continue to be, only limited and rudimentary. In these circumstances, when it is not at all clear what such an international control body should look like and how and by what means it should perform its tasks, we cannot agree with the protagonists of this idea. We think, on the contrary, that for the time being the procedures outlined in article III of the operative part of the draft treaty are fully sufficient.

49. Should the need become apparent in future, the questions connected with verification measures could be discussed again at a review conference mentioned by some delegations in their comments. The undertaking to convene such a conference after a certain period of time could therefore, in our opinion, be included in the treaty.

CCD/PV.443 pp.20-27

USA/Leonard

16.10.69

SB

59. I should like today, in order to facilitate full understanding, to discuss the factors that underlie my delegation's approach, particularly as regards verification — the aspect of the treaty that has received the most attention so far. It is perfectly understandable that this matter should be carefully examined, since no responsible government could accept an arms limitation unless it was confident that the obligations of the agreement would be complied with by the other parties. Many delegations have commented on verification in our plenary meetings, and considerable informal discussion has also taken place. We have also had a detailed presentation on this subject in the form of a working paper submitted by the representative of Canada (CCD/270).

60. As I understand the concerns that have been expressed, there seem to be three points of particular interest to a number of delegations. First, there is the concern that verification, to be adequate, requires a more complete inspection of sea-bed facilities. That concern is reflected in suggestions that there might be provisions in the treaty

covering access into facilities. Second, there is a feeling that verification, to be effective in practice, requires that assistance be available; and that feeling is reflected in suggestions for arranging assistance through an international organization such as the United Nations. Third, there is a fear that verification, to protect the rights of coastal States, requires the establishment of explicit procedures, as reflected in suggestions for procedures for notification and the participation of a coastal State in verification activities in the vicinity of its continental shelf.

61. Let me address these points in order.

62. There has already been considerable discussion of the possible need for a right of access to facilities on the sea-bed. As Mr. Fisher pointed out in some detail in his statement on 22 May, the United States believes that a right of access, for the purpose of a nuclear measure, would be both impractical and unnecessary (ENDC/PV.414, paras.12-20).

63. Before we go further, however, I should like to explain that when the United States delegation refers to the right of access we mean the right to go into a facility or the right to open up a piece of equipment. When we say that such access is impractical and unnecessary, we are not referring to access in the sense of ability to go close to the object or facility in question. In other words, in one sense access would be permitted: that is, under the freedom of the high seas parties could have access — close access — to the area of a facility or an object, so long as there was no interference with the activities of the States concerned.

64. Without repeating our earlier statements, let me simply sketch out our reasons for the conclusion that access in the narrow, specific sense of physical intrusion into a sea-bed installation would be impractical and unnecessary. Such access into sea-bed installations would be difficult, hazardous and costly, and could be destructive of both property and human life owing to the high pressures in deep water around the object to be verified. Furthermore, the resources which might be available for this purpose are in very short supply.

65. Now these obstacles might have to be faced if it were absolutely necessary to have inspections of the interior of installations to assure compliance with the treaty which we have before us; but we are convinced that access into installations would be unnecessary for us, or for other nations, whatever the level of their knowledge of marine technology. We believe that sea-bed emplacements for nuclear weapons, on the scale required to be of significant military value, would be difficult to build without the knowledge of other countries. Emplacing such installations would involve a great deal of sophisticated equipment, it would involve unusual engineering activities and it would involve a highly visible support effort. In addition, the deploying country would obviously endeavour to enforce elaborate security systems to protect the vital military secrets which would be involved in such installations. All those activities would undoubtedly attract the attention of other maritime countries.

66. Even if one were to assume, for the sake of argument, that some facilities for the emplacement of weapons of mass destruction might be emplaced before the construction was discovered, the configuration and operation of facilities specifically designed for nuclear weapons or other weapons of mass destruction would be plainly observable and identifiable, without access into such facilities being required.

67. It has been asked how we can be so sure of our capability and the capability of others to check compliance with this treaty when we have insisted on much more elaborate provisions in other arms control measures. That question seems to imply that there should be virtually identical verification provisions for any measure, regardless of its nature. In contrast, the United States has always sought to establish verification procedures appropriate to the particular measure in question. In some instances it may be necessary to have certain types of on-site inspections; in other cases, as for example

the ban on stationing nuclear weapons in outer space, access to objects is not required.

68. I hope we can all agree that it is following the path of progress for us to adopt a flexible, imaginative and creative view regarding procedures for verification. If a country were to refuse to accept verification procedures for one situation because in another situation other verification procedures might be necessary and appropriate, the opportunities for reaching agreement would be severely limited. I think it would be correct to say that this Committee has an interest in demonstrating its ability to fashion verification procedures uniquely tailored for the needs of each unique situation. That is the pragmatic way to achieve progress; and we ask the Committee's support for proceeding in this manner.

69. Returning now to the sea-bed, we believe that there is a wide range of possible actions which parties could take to verify compliance with this treaty, short of actual entry into installations. As we pointed out earlier, the vast majority of States have ships and planes that can and do constantly carry out surveillance of their coastal waters. Even more important, the activities of States on and over the high seas are not and will not be subject to the kind of restrictions that would apply in the case of inspections on the territory of another State. So long as the activity was not interfered with, States could observe the facility as often and as closely as the circumstances warranted. Photographs could be taken and data could be collected to evaluate the activity and to assist in the determination of whether the treaty had been violated. So long as they took place within the Treaty area and did not interfere with the activities of the States concerned, those procedures would be consistent with existing international law.

70. If it is suggested, as we have sometimes heard, that the 500-metre safety zone permitted under the Geneva Convention on the Continental Shelf [United Nations Treaty Series, vol.499, pp.311 *et seq.*] would preclude close examination of a particular installation, I would respond that it is highly unlikely that a potential violator of this treaty would announce the precise location of his violation by giving due notice of the installation and the safety zone, as provided in that Convention. Even if he were to do just that, observation — rather close and continuous observation — would still be possible and the nature of the activities being carried out at the installation could indicate whether further consultation was required.

71. May I turn now to another aspect of the verification question, the matter of assistance? It is an undisputed fact that there are differences among States regarding their respective levels of technology. This has led some to wonder whether there should be provisions in the treaty to establish arrangements which would enable less advanced States to obtain assistance in carrying out verification activities on the sea-bed. The United Nations has been mentioned as a possible source or channel for such assistance.

72. As in the case of the need for access, this is a legitimate question and deserves to be answered. We continue to believe that efforts to provide explicit procedures for assistance would be premature, in view of uncertainty about what is involved, and could also raise severe problems of resource allocation. The equipment and personnel for these specialized activities are in short supply, and detailed examination would be necessary by the States possessing them of any proposed treaty provisions governing their use.

73. The suggestion contained in paragraph 5(a) of the Canadian working paper is that States "shall have the right to apply to another state party" for assistance (CCD/270). The representative of Canada has pointed out that his paper does not propose treaty language, and we think that this represents a helpful clarification at this stage. However, the language used in paragraph 5(a) points up the difficulties of the suggestion. We think that problem is now covered adequately and in a practical and workable manner as a result of the present language in paragraph 2 of article III of the draft treaty contained in document CCD/269. This language clearly reflects the fact that

parties may exercise their right of verification by their own means or with the assistance of other parties. If the proposed paragraph 5(a) means something more than that, it might imply obligations for the United States and other countries and, given the present state of technology and the varying political relations among the large number of countries that might become parties to the treaty, it would not be possible for us to accept such obligations.

74. There is another aspect of this question that deserves careful study. It may be thought that the United Nations should play a role in verification, since it is the organization charged with the responsibility for international peace and security. In fact, under the Charter of the United Nations there are already provisions for dealing with possible threats to peace. But I would urge caution in specifying in this treaty how the United Nations should be used or what the Secretary-General might do.

75. I believe it would be a mistake to try to turn the question of verification over to the United Nations. Instead, I believe that reliance should be placed on informal procedures for consultation and co-operation as already envisioned in the draft. States that have mutual interests in particular areas of the sea-bed would no doubt wish to work out appropriate arrangements. All this would take place within the framework of normal international relations.

76. In those very few cases where consultation and co-operation might not be sufficient, or where a party might have serious questions about the observance of the prohibition, there are existing procedures for bringing such questions to the attention of the Security Council. These are set forth in the United Nations Charter, and the sea-bed treaty would certainly not change any party's rights or obligations under that Charter. In contrast to efforts to specify in the sea-bed treaty procedures for United Nations action, it might be more fruitful to consider ways in which existing United Nations procedures might apply. While my delegation would be opposed to efforts to include explicit provisions for United Nations participation in, for example, verification, it is ready to examine how the existing framework of international law, including the Charter of the United Nations, might be used to reinforce the provisions of the sea-bed treaty. I hope that those delegations concerned about verification assistance will comment on this approach.

77. The last of the three interests I mentioned earlier has to do with the rights of coastal States. Although the treaty clearly provides that verification would have to take place without infringing rights under international law, some delegations have expressed the view that procedures should be established to ensure that the coastal State's rights regarding its continental shelf are protected. The procedures which have been suggested involve notification and participation of a coastal State which is a party to the treaty in verification activities taking place on the continental shelf or in its superjacent waters. Since I believe we are agreed that this treaty should not prejudice any State's existing rights, it is proper that we should review the draft text to see whether this concern is fully met and, if not, whether new procedures should be formulated and negotiated.

78. After reviewing this question carefully, the United States continues to be convinced that new procedures need not and should not be developed. The draft treaty is written in such a way as to ensure that it would not infringe or otherwise interfere with existing rights or obligations under international law, except in so far as the parties would accept the new prohibitions of the treaty itself, such as not to emplace weapons of mass destruction beyond the contiguous zone. The provision for verification depends directly on international law and the exercise of the freedom of the high seas. As a practical matter, we are confident that parties would be able to verify effectively without in any way infringing the rights of coastal States regarding the continental shelf.

79. In contrast to this flexible and realistic provision, the proposal for notification and participation or association of the coastal State seems to us to be an unnecessary and undesirable restriction on the right of a party to verify the activities of others. If the proposed procedure for involving a coastal State is to have any meaning, it will require a corresponding power or authority to enforce the obligation. But it would not be immediately apparent whether a ship, sailing on the high seas, was engaged in activities completely unrelated to this treaty, or whether it was carrying on some form of verification for which permission would be needed. The coastal States, therefore, might feel authorized to attempt to exercise some form of control over the activities of any ship or submarine in the vicinity of its continental shelf. We would regard any such effort to be a serious infringement of the freedom of the high seas. It would also be inconsistent with the 1958 Geneva Convention on the Continental Shelf, which stipulates that the rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas, or that of the airspace above those waters, and that the coastal State's rights on the shelf are limited to exclusive rights of exploration and exploitation.

80. The problems of co-participation or association are not solved by the inclusion of a clause like that contained in paragraph 6(c) of the Canadian working paper. That paragraph states that the provisions for notice and association do not apply to the process of "simple observation" in the normal course of navigation or overflight. It is extremely difficult to visualize, and I believe it would in fact be even more difficult to establish, clear-cut dividing lines between "simple observation" and observation that might be described as not "simple" because something more than the naked eye, such as cameras, had been used. Would it cease to be "simple" because observation had taken place by some divers in the water who had not descended to the actual sea-bed, and so forth? Complexities of that sort should be avoided.

81. We hope that members of this Committee will ask themselves frankly whether we really need to establish procedures for "co-operation" or, to use the word in the Canadian paper, "association" to satisfy those concerns of coastal States that seem to lie behind the idea. We understand that coastal States which value highly their right to exploit the resources of their own continental shelves would not like to see the right of verification under the sea-bed treaty utilized somehow to prejudice their right to develop those resources. It seems to us improbable, however, that any country could in some fashion approach the continental shelf of another State and, under the guise of sea-bed arms control verification, exploit resources of the shelf without the knowledge of the coastal State.

82. Exploitation of resources in the sea-bed is a big and a difficult job. It takes equipment and men on a large scale. It cannot be done in an hour or two by a ghost ship in the night. These obvious realities should not be ignored in this Committee. On the other hand, if it were felt that the verification activities of another State under the sea-bed arms-control treaty were somehow being used as a cover to circumvent the coastal State's exclusive right of exploration and exploitation on the continental shelf, those activities could certainly be brought into question by the coastal State. On the basis of these realities, our conclusion is that special new procedures providing for "co-operation" or "association" are simply not needed to protect the rights of the coastal State on the continental shelf. All of these considerations have convinced my delegation that an attempt to develop these procedures would seriously complicate the negotiation of this treaty and would be undesirable in any case. Such procedures would raise difficult and complex questions of the law of the sea. Furthermore, there would be important and adverse security implications, since the procedure would inevitably infringe the right to use the high seas freely.

83. At the same time, we should not simply dismiss the concern that lies behind all of

these suggestions. We appreciate the interest of coastal States in ensuring that their rights are safeguarded. The United States, after all, has a very long coast and a large continental shelf. As has been pointed out, international law covers not only such things as the freedom of the high seas but also rights regarding the continental shelf. If, despite our previous efforts to avoid even the implication of prejudice to the positions of parties, there remains a strong feeling that this needs to be spelt out with somewhat greater attention to existing rights, then I believe that further consideration is warranted. Accordingly I hope that those delegations which are concerned about protecting the rights of coastal States will give some thought to how this might be done in ways which would not require restrictions on what for centuries has been accepted as part of the doctrine of freedom of the seas.

84. Before leaving the question of the rights of coastal States, I think it would be helpful to point out the interrelationship between the question of inspection with access, as suggested in paragraph 4 of the Canadian working paper, and the question of protecting the legitimate existing rights of coastal States on their own continental shelves. If access to facilities were to be provided under this treaty, then clearly there would be greater opportunity for somehow impeding or complicating activities of coastal States on their own continental shelves. Therefore we think that the interests of coastal States, which presumably want to minimize any possible risk of impeding the operation of their facilities on their own continental shelves, would best be served by simplifying, not complicating, possible procedures of verification.

CCD/PV.445 p.8

Mongolia/Dugersuren

23.10.69

SB

14. Turning to questions of verification, my delegation is of the opinion that article III of the draft treaty broadly provides the basis upon which every State party may exercise its right of verification. However, we think that in order to strengthen the assurance of compliance with the verification provisions it might be useful to incorporate a recourse clause in the text. At the same time we consider that the recourse provision must make it quite clear that the Security Council can be approached first and foremost as the organ responsible for maintaining international peace and security, but not as a provider of the verification machinery.

15. In the discussion of the verification problems two main trends are obvious. The first trend is the arguments and proposals put forward by a number of representatives with a view to protecting the specific rights and interests of coastal States established and recognized by relevant international instruments — that is to say, legal considerations. The other trend is based mainly on technical feasibilities in rejecting some of the legally-founded proposals. Although we admire the outstanding achievements of the technological revolution, we should not be, so to speak, too technically minded. My delegation thinks that due consideration should be given to those proposals which stem from the sovereign rights and security interests of States, even if their implementation at the present stage would involve certain difficulties from the technical point of view.

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Argentina/Ortiz de Rozas

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55. I should like now to consider in some detail article III, relating to the control procedure. To set this problem in its proper perspective, it has to be considered on the basis of the premise that the sphere of application of the treaty coincides with vast areas of the sea-bed and the subsoil thereof which are subject to the sovereignty of the coastal States. I am referring to the continental shelf, with regard to which the Inter-

national Court of Justice, in the judgment delivered in the case of the delimitation of the continental shelf between Denmark, the Federal Republic of Germany and the Netherlands, stated:

"What confers the ipso jure title which international law attributes to the coastal State in respect of its continental shelf, is the fact that the submarine areas concerned may be deemed to be actually part of the territory over which the coastal State already has dominion — in the sense that, although covered with water, they are a prolongation or a continuation of that territory, an extension of it under the sea". [International Court of Justice: Reports of judgments, etc. North Sea Continental Shelf Case, 20 February 1969, Judgment, p.31.]

International law recognizes that coastal States have sole and exclusive exploration and exploitation rights over the continental shelf. This sovereign right is inalienable, natural and exclusive to the coastal State, and as a consequence of it all investigation activities carried out in this zone must have the prior consent of that State.

56. It is obvious that this draft cannot modify the legal status of the continental shelf. At the same time we recognize the need for an effective verification system to allow the determination, with the utmost precision, of the fulfilment of the obligations laid down in the instrument. It is a question, therefore, of establishing a careful balance between an existing legal system and the requirements of an adequate verification procedure, without implying thereby that the rights of the coastal States over the continental shelf are in any way affected while the control procedure is being carried out.

57. Thus, whatever verification system is adopted, the interests and the security of coastal States must be considered especially carefully. This implies that such States must at least be aware of the procedures that other States are carrying out within the zones subject to their jurisdiction, and must have the opportunity of associating themselves with those procedures if they so wish.

58. We believe that the machinery envisaged in article III raises various questions which should be resolved within the context of the treaty. For example, the article provides that -

"...the States Parties to the Treaty shall have the right to verify the activities of other States Parties to the Treaty ... if these activities raise doubts concerning the fulfilment of the obligations assumed ... without interfering with such activities or otherwise infringing rights recognized under international law..." (CCD/269, p.2)

To clarify this concept, the representative of the United States and co-sponsor of the draft said:

"...the provision does not imply the right of access to sea-bed installations or any obligation to disclose activities on the sea-bed that are not contrary to the purposes of the treaty." (CCD/PV.440, para.32)

59. Subject to the reservation already made with regard to the continental shelf, we agree with that interpretation. We understand, a contrario sensu, that in face of a violation of the treaty there exist a right of access to the installations emplaced on the sea-bed, and an obligation to disclose activities contrary to the aims of the treaty.

60. A difficulty arises in this case for the great majority of countries that do not possess the means of verifying unaided any suspected or real violation. I wish to be absolutely clear on this point: I am referring to the verification procedure that has to be carried out in the depths of the sea, and not to suspicious activities that take place on the surface with a great display of ships and equipment in regard to which we can accept the hypothesis that they are easy to detect.

61. How can the technologically less-developed countries investigate what other States are doing on the sea-bed and — what is even more serious — on their own continental

shelves, if they lack the necessary equipment and resources? It has been said, and it will perhaps be reiterated, that in such a situation the provisions of paragraphs 2 and 3 of article III would apply — that is, the aid of third States and the system of consultation and co-operation. But aid and co-operation of this kind are undeniably optional and, in short, the less-developed countries will always be dependent for their security on such uncertain factors as the good will of those which possess the means of investigating the sea-bed, the availability of equipment which is admittedly scarce, or even the changing circumstances of the international situation.

62. Therefore it can be said that although the letter of the treaty ensures, as the representative of the Soviet Union has said, "equal rights for each State party to the treaty to participate in the exercise of control..." (*ibid.*, para.16), strictly speaking this right is illusory, for the possibilities of exercising it are far from identical, so that in practice it would be restricted to a small group of possible signatories.

63. This line of reasoning brings me to the question of an international authority, which has been raised a number of times in this Committee. In this connexion my delegation feels that the comments made by the representative of Italy are very pertinent, and shares the views he expressed at the meeting on 9 October when he said:

"...we wish to stress once again that it is essential that the principle of international responsibility in the matter of control should be recognized in the provisions of the treaty. In other words, an adequate procedure introducing — through machinery to be determined — recourse to international organizations must be established; and this both on account of the principles I have mentioned and because of the legitimate concern of States with very long coastlines at seeing certain of their inalienable sovereign rights ... threatened by unjustified verification operations which might be carried out by other States". (*CCD/PV.441*, para.36)

In the same order of ideas Mr. Caracciolo said later:

"...if the States which adhere to the agreement now under discussion consider themselves to be threatened by the real or suspected activities of other States, they must be able to avail themselves of the guarantees provided by the treaty without the need to have recourse to the optional assistance of the technologically more advanced States." (*ibid.*, para.38)

64. Moreover, in view of the doubts to which the control procedure gives rise and the obvious imbalance which it reveals, the relevant article should in our opinion contain an additional clause under which it would be clearly established that the verification activities must be strictly limited to ensuring compliance with the obligations laid down in the treaty and cannot constitute a basis for creating sovereign rights over the sea-bed and the ocean floor or for asserting, supporting or rejecting a claim to sovereignty over the said sea-bed and ocean floor; and will not affect the sovereign rights or the exploration and exploitation rights of the coastal State over the continental shelf adjacent to its shores. The delegation of Argentina intends to embody this idea in due course in a text which will be submitted to other delegations.

65. We have studied with very great interest the working paper (*CCD/270*) presented by the delegation of Canada, and we note with satisfaction that it broadly reflects the concern we have already expressed. We are pleased to inform the Canadian delegation and the Committee that we are prepared to co-operate with other delegations in drafting a final text which would obviate the difficulties we observe in the present wording of article III.

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Burma/U Chit Myaing

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82. May I now turn to the question of verification? I have listened with greatest attention to the many interesting and deeply-thought-out suggestions made by various delegations for improving article III of the joint draft. In a very real sense those suggestions reflect the deeply-felt concerns and apprehensions of the smaller countries; and I feel that those concerns and apprehensions must be sufficiently allayed if the treaty is to receive the measure of world-wide adherence of coastal States necessary to make it meaningful. I therefore commend them to the co-Chairmen, and very much hope that they will take them fully into account in revising the provisions of article III.

83. In view of the number and range of these suggestions I find myself in the happy position of being required to make only some brief observations on the subject.

84. The primary function of verification is, of course, to ensure that treaty provisions are being observed by all parties: in this case, that no party to the treaty emplaces nuclear and other mass-destruction weapons on the sea-bed, on the ocean floor and in the subsoil thereof. As no country seems as yet to have developed its undersea technology to the level necessary to put nuclear weapons on the bottom of the sea it seems probable that at the time of the entry into force of the treaty, and perhaps for some time thereafter, we shall not be witnessing a great deal of activity on and under the high seas carried out for the explicit purpose of verifying compliance with treaty obligations. But as undersea technology develops, which could have both military and peaceful applications, the requirements as well as the possibilities of verification are bound to increase, and some form of international co-operation will then become necessary. We would accordingly like to see included in the treaty a clause looking to such an arrangement.

85. On the other hand, and notwithstanding what I have just said, something must be done from the outset to ensure that the rights of coastal States relating to their continental shelf will in no way be directly infringed or indirectly and progressively eroded through the operation of the treaty's verification provisions. Therefore article III should contain an affirmation, in explicit and unambiguous language, that verification procedures shall not be carried out on the continental shelf in a manner that could impair the rights of coastal States under the 1958 Geneva Convention on the Continental Shelf [United Nations Treaty Series, vol.499, pp.311 et seq.] and under existing international law. Additionally, the inclusion of a provision leaving the possibility open for coastal States to be associated with later-stage verification procedures on their continental shelf is clearly desirable.

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Yugoslavia/Bozinovic

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92. I shall now turn to article III, dealing with the problem of verification and inspection; but before commenting on the verification provisions I should like to stress that my country has never supported any tendency towards either over-emphasizing or under-estimating the importance of control relating to disarmament measures. In my statement of 4 September (CCD/PV.434, paras.94-99) I presented our general view on the kind of verification we would like to see instituted, and suggested other means by which implementation of this treaty could be strengthened. Two weeks ago the draft treaty was submitted by the two co-Chairmen, and today we are in a position to deal with the verification issue in a somewhat more specific manner.

93. As has already been pointed out by many delegations, verification in general is of particular interest to many countries and is not the concern of the nuclear Powers only. It is the aspect of verification in the first place which points to the multilateral

character of this treaty. A number of delegations have stressed that the problem of verification has not been solved in a satisfactory manner in the draft treaty and that article III is not sufficiently clear. The view has been expressed that verification could mean either full control or only the right of observation which already exists under international law. Some delegations have accordingly suggested that free access to the objects and installations which cause suspicion should be included in the draft treaty, with a provision that this should be preceded by consultations with the country concerned. My delegation shares that view.

94. Opposing views and arguments have been expressed by a number of delegations, including that of one of our co-Chairmen. In short, these views and arguments suggest that the present article III is sufficient for our present-day needs and that therefore no changes need be introduced. The arguments suggest, we hope rightly, that in fact there will be very few inspections requiring access. But there is also a tendency to conclude on that basis that therefore there is no need for a right of free access and international inspection.

95. We believe, on the contrary, that that very fact offers a convenient opportunity to begin introducing an adequate and effective system of control in which all or most of the countries would have complete confidence. That would certainly increase our experience of the system of international control, which we also need in relation to other, more complicated disarmament measures; also it would gradually strengthen international confidence.

96. I shall now pass to another aspect of this problem. It appears that at present only the big Powers are capable of carrying out verification and inspection procedures on the sea-bed. In an earlier debate in this Committee views were expressed in favour of providing assistance to those parties to the treaty lacking these capabilities. Provision for that has found its place in paragraph 2 of article III of the joint draft treaty, and we welcome it. However, we believe that that paragraph should be supplemented so that it stipulates the possibility of obtaining assistance directly or through the good offices of the Secretary-General of the United Nations. We suggest this small addition because we believe that in our efforts in connexion with disarmament we should address ourselves more often to the United Nations. That would strengthen the role of the United Nations — which we should all like to see — as well as the international character of this treaty.

97. Furthermore, the draft treaty does not foresee any possibility of the creation of an international control organization to verify compliance with the treaty. Earlier we expressed the view that the creation of such a separate international control organ now would obviously be irrational and unnecessary. However, we should not view this treaty as static, and without proper perspective. That is why we believe that it would be useful if the idea of control through an international organ were introduced into the treaty as an aim for the future. It should be relatively easy to incorporate it in this article.

98. The question of verification on the continental shelf in our view merits particular attention. A number of smaller countries, including my own, would like to have a somewhat stronger feeling of certainty that rights granted to them through the norms of international law would in fact be observed. In the case of the draft treaty on the sea-bed there should be no serious obstacle to that. It could be done by securing the right of participation or association for the country on whose continental shelf the verification was to be exercised, if it so desired. A suggestion for a possible solution has been made by the Canadian delegation in sub-paragraphs 6(a) and (b) of its working paper (CCD/270). We hope this suggestion will be considered with the careful attention it deserves. Here again I considered it appropriate to point out that such participation should by no means represent any limitation of the existing rights under international

law of the country desirous of exercising the right of verification.

99. In my statement on 4 September I suggested the introduction of an obligation on the parties to the treaty to make public all events and activities noticed on the high seas which might be contrary to the aims of the treaty, as well as an obligation in the treaty to communicate all results of any verification carried out to the United Nations Secretary-General for the information of all signatories to the treaty (CCD/PV.434, paras.98, 99). The language of a new paragraph corresponding to these two suggestions might be on the following lines:

"Each State party to this treaty undertakes to inform the Secretary-General of the United Nations of any such event or activity as might be contrary to the strict observance of this treaty, as well as of the results of the verification if and when undertaken."

100. There is no indication in the joint draft of the way to resolve disputes in the case of their occurrence in connexion with the verification procedure. We do not believe it to be necessary to proceed now to the elaboration of a system for that purpose; at this stage that is perhaps unnecessary. However, what should be introduced into the treaty is that, in the case of failure of interested parties to agree on verification or of failure to remove suspicion, the country or countries initiating the action should address themselves to the other parties to the treaty through the United Nations Secretary-General, or to the appropriate international organs. I think a similar solution can be found in the outer-space Treaty (General Assembly resolution 2222 (XXI), Annex).

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UAR/Khallaf

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123. I now come to article III, which has the merit of flexibility, at least in some respects. The gist of this article is the issue of verification. On the face of it, the provision in the joint draft is to be preferred to mere mention of the right to observe, or even the right of access, on the basis of reciprocity only, as was stipulated in previous drafts. But a thorough study of the joint draft quickly brings us to the conclusion that it merely mentions the right of verification without delimiting its content. Thus the right of access has been excluded and the right of verification deprived of its real content. Mr. Leonard confirmed this on 16 October when he said that -

"...when the United States delegation refers to the right of access we mean the right to go into a facility or the right to open up a piece of equipment. When we say that such access is impractical and unnecessary, we are not referring to access in the sense of ability to go close to the object or facility in question. In other words, in one sense access would be permitted: that is, under the freedom of the high seas parties could have access -- close access -- to the area of a facility or an object, so long as there was no interference with the activities of the States concerned." (CCD/PV.443, para.63)

124. Thus we are now seemingly faced with two types of access: one, close access, that is, within a certain distance from the installation; and the other, access into the installation proper. The first type is acceptable to Mr. Leonard, the second type is not, as in his view the latter not only would be impractical and unnecessary but could be difficult, hazardous and costly as well as destructive of both property and human life. To that we would say that there is no difference between close access and observation which, in this Conference, was not deemed by many delegations to be sufficient or satisfactory for the proper implementation of the right of verification.

125. Let me state clearly that my delegation does not insist on access for its own sake but only as an adequate means of verification. It is therefore not sufficient to be told

that access is impractical and unnecessary. Even assuming that were so, the need would still remain for means whereby countries could put their minds at rest. Observation by itself is just not sufficient. In spite of the explanations given, observation remains something which would produce modest results. Furthermore, let us remember that even observation could be hampered in more than one respect.

126. Moreover, it is quite certain that States parties to the treaty would not avail themselves of the right of access in a manner detrimental to the safety of the installation and human life. I am sure agreement could be reached whereby both property and human life could be satisfactorily protected during access. There can be no doubt that the unconditional and a priori rejection of access proper, without its replacement by some other adequate measure, forms a serious limitation to the exercise of the right of verification.

127. Therefore we consider this particular aspect of the verification issue of such importance that we would not want to see it postponed to an eventual review conference. In our view, the content of verification must be defined here and now.

128. I should now like to turn my attention from the content of verification to the way in which it is proposed it should be implemented. Article III, paragraph 1, stipulates that verification should be carried out without interfering with activities or otherwise infringing rights recognized under international law, including the freedom of the high seas. Understandable as this provision is, does it not tend to favour from the very outset the technologically-advanced States? One becomes even more alarmed on hearing Mr. Leonard say that "the provision does not imply ... any obligation to disclose activities on the sea-bed that are not contrary to the purpose of the treaty." (CCD/PV.440, para.32)

129. It is clear that in this provision a proper balance simply does not exist between the rights and obligations of all parties — that is, the prospective complainant States on the one side and those that might come under suspicion on the other. Indeed, it is quite obvious that the complaining State is left in a position of weakness vis-à-vis the suspected State, which could procrastinate at leisure in the removal of doubt by invoking the contents of this paragraph. This is a situation that must be remedied, and we do not doubt that the two co-sponsors can restore a more equitable balance of overall rights and obligations.

130. Of course we welcome paragraph 2, whereby the right to verification may be exercised by any State party to the treaty alone or with the assistance of any other State party thereto. We had hoped that the possibility of carrying out verification by an appropriate international agency or arrangement, whenever that became feasible, might somehow be reflected in the draft. It seems that agreement on this point has proved difficult so far; but we have not given up hope that such an arrangement may eventually be realized.

131. Moreover, we observe that the joint draft remains silent as to what is to be done when suspicions have grown strong or when a violation seems beyond doubt. To fill that lacuna we suggest that a suitable provision be included in the treaty to cover the possibility of recourse to the Security Council.

132. Before ending my comments on article III, I should like to point out that it also provides for consultation and co-operation with a view to removing doubts. Although this provision may be of some benefit, nevertheless we believe that on practical grounds we should not overestimate the service it could render, especially in circumstances where relations between States do not allow for its normal implementation.

149. I now come to the question of verification, which to us and to most of the delegations here is the most important. It is true that considering technological capabilities the draft treaty is, by its nature, the primary concern of the nuclear Powers. Be that as it may, the fact remains that any treaty that may be agreed is supposed to be of general application. We in this Committee have learnt from experience, I believe, that however high or even hypothetical the technological requisites for a weapon system may be, the question of verification procedures will always be a knotty one. That is so primarily because every signatory to a proposed disarmament treaty would wish to be assured that whatever was agreed would be complied with. Starting, therefore, from the principles of general applicability and credible compliance, and recognizing the different levels of technological knowledge, it should be obvious that to ensure general acceptance any control procedure must adapt itself, as among States, to the highest common factor of technological knowledge and capability.

150. I am afraid that verification as provided for in article III of the draft treaty does not seem to give recognition to that logic. To us, article III of the draft treaty seems not only to be nebulous and open to different interpretations but to be tailored to fit a high level of technological capability which only the two super-Powers, perhaps, possess. Otherwise, what do we make of a provision which speaks of the right to verify without defining it; which relates that right to another set of rights recognized under international law, including the freedom of the high seas? What precisely are those rights "recognized under international law", and how do the "freedoms of the high seas" relate to verification on the sea-bed? The apprehensions raised by those uncertainties regarding article III are confirmed when one reads the article in conjunction with the statement of the United States representative that -

"...the provision does not imply the right of access to sea-bed installations or any obligation to disclose activities on the sea-bed that are not contrary to the purposes of the treaty." (CCD/PV.440, para.32)

What right of verification are we left with if there is neither right of access as such nor the obligation on the suspected party to disclose his activities?

151. In spite of the other deficiencies of the draft treaty we believe that even outside this Committee it will stand or fall on whether the provisions for control are effective and reliable. We of the Nigerian delegation believe that mere observation, as the co-Chairmen seem to propose in their draft treaty, is not adequate and will not win the confidence or support of many States. Perhaps it is adequate for the super-Powers, with their technological capability; but it is, I am sure, inadequate for and unacceptable to those of us who are not fortunate enough to share their technological ability. As I have said, the verification provision of a sea-bed treaty, like any other provisions relating to disarmament, not only must be credible but also must appear to be so. It must therefore ensure investigation beyond mere observation. It must protect and guarantee the rights of all, irrespective of the individual capability to do so, and provide for international machinery for resolving disputes, particularly in a world in which there is such a big gap in relative power.

152. That is why my delegation is grateful to the Canadian delegation for its working paper (CCD/270), which defines the right of verification, clarifies the procedure for exercising it, protects the rights of coastal States and prescribes machinery for the settlement of disputes. We fully support the paper, and we commend it to the Committee for the most serious consideration.

153. Before I end this part of my statement I should say explicitly that we see no objection to the provision in paragraph 5(a) of the Canadian paper for the option of recourse to the Secretary-General of the United Nations in seeking assistance from a

third party for verification. In that connexion it should be noted that the same paragraph provides for the bilateral arrangement of assistance. Apparently, therefore, the option of recourse to the Secretary-General of the United Nations is intended to serve those who, for political or other reasons, are unable or unwilling to arrange for verification assistance bilaterally. It is pertinent to note here that, since the Secretary-General is not in a position to undertake verification directly, it goes without saying that he would have no alternative but to approach one or other of those Powers with which direct bilateral agreement could have been entered into by the party concerned. In all sincerity we find ourselves unable to appreciate the objection of the United States representative to any "explicit provisions for United Nations participation in ... verification..." (CCD/PV.443, para.76).

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Morocco/Khattabi

23.10.69

SB

170. I now come to the question of verification, covered in article III of the draft treaty. We listened with great care to the statements and clarifications made on the subject by Mr. Roshchin and Mr. Leonard during the 440th and 443rd meetings, and to the comments of various other speakers who have spoken before me. It seems quite clear that this question of verification, which gives rise to much discussion and controversy and not a few misgivings, is closely connected in the first place with the willingness of the major nuclear Powers to respect the commitments they have accepted under international instruments such as the draft treaty now before us, and in the second place with the prevailing international climate.

171. We have no reason to question the willingness of the major nuclear Powers to respect the commitments they have accepted or will accept, and their intention to contribute to improvement of the climate of international relations. That is the very basis, if not the whole point, of all negotiations relating to disarmament, whether partial or complete. Otherwise no State, great or small, would be able to do anything to verify whether any particular weapons of mass destruction had been placed on the sea-bed and the ocean floor, even if the right of free access to inspect the accused installations were accepted and recognized.

172. After that remark which I have ventured to make in connexion with verification, I should like to say that, apart from the obvious ambiguity of paragraph 1 of article III concerning the "right to verify", which would be marked by the absence of an appropriate verification procedure, and if allowance is made for the rights existing under international law, including the freedom of the high seas, then this paragraph as drafted seems to contain as much as can be achieved at the present stage of the technology of exploration of the sea-bed and the ocean floor. Mr. Leonard, in his statement on 16 October (CCD/PV.443, paras.62 et seq.), argued in favour of exercise of the right of verification by observation of installations without interference, and by consultation and co-operation between States parties in the event of doubt. In the opinion of my delegation one must recognize that these arguments are very convincing and are based on realistic and practical considerations. Some of these arguments were developed by Lord Chalfont (CCD/PV.444, paras.70-75) in a way that left no room for doubt concerning the validity of a system of verification based on observation and consultation.

173. With regard to paragraph 2 of article III of the draft treaty I should like to stress that the exercise of the right of verification with the assistance of any other State party, for which it provides, is a concept which is good and acceptable in principle, for it enables all States parties to exercise this right, including those which have not the necessary technological means for such verification. Nevertheless, in the present context of international relations the exercise of the right of verification with the assistance of

another State party and without the intervention of the United Nations might in certain cases be incompatible with the line of political conduct chosen by several States vis-à-vis the blocs. I am thinking, of course, of most of the non-aligned countries.

CCD/PV.447 pp.9-10

USA/Leonard

30.10.69 SB

20. We have also stated that the present state of sea-bed technology and verification capabilities calls for a realistic measure at this time which may be reviewed later as those capabilities increase. Being committed to that principle, we have examined the various suggestions for incorporating the principle into the revised draft. After careful consideration we have concluded that provision for a review conference, when considered in conjunction with the third preambular paragraph, would provide effective and appropriate assurances. We believe that if the parties commit themselves to review the treaty after a specified period of time — that is, five years after its entry into force — we shall eliminate the possibility that a review might be postponed or delayed indefinitely as a result of unforeseen political circumstances. Accordingly we have included in the revised draft a new article V which provides for a review conference five years after the treaty has entered into force. The language of the article is as follows:

"Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized. Such review conference shall take into account any relevant technological developments. The review conference shall determine in accordance with the views of a majority of those Parties attending whether and when an additional review conference shall be convened."

CCD/PV.447 pp.11-12

USSR/Roshchin

30.10.69 SB

26. As the United States co-Chairman has already stated, the Soviet Union and the United States are today submitting for the consideration of the Committee on Disarmament a revised draft treaty (CCD/269/Rev.1) which contains a number of substantial additions and modifications taking into account the views expressed by many members of the Committee during the discussion of the draft submitted by the Soviet Union and the United States on 7 October. Allow me to explain briefly the modifications made in the draft treaty.

27. As has already been pointed out, many delegations paid a great deal of attention to the question of verification of observance of the treaty. This problem is of no little importance, because the parties to the treaty are naturally concerned to have confidence that the treaty is being strictly observed. In our opinion the verification system provided for in the draft treaty of 7 October is sufficiently reliable. Nevertheless, we have carefully examined all suggestions to amend the provision on control, and in evaluating them we have been guided by the need that the system of control should be both effective and realistic.

28. As has already been pointed out, many delegations — the delegations of Bulgaria, Czechoslovakia, the Netherlands, Brazil, Canada and a number of others — proposed that there should be provision for a procedure to settle disputes in case consultations between parties to the treaty failed to remove doubts as to its observance; namely, that such disputes should be referred to the Security Council. We have adopted this proposal, and the resulting wording of paragraph 3 of article III has been read out by the United

States representative. However, since the proposals introduced by us are of great importance, I shall read it again. It is as follows:

"The States Parties to the Treaty undertake to consult and co-operate with a view to removing doubts concerning the fulfilment of the obligations assumed under this Treaty."

Then comes the addition which was accepted:

"In the event that consultation and co-operation have not removed the doubts and there is serious question concerning the fulfilment of the obligations assumed under this Treaty, States Parties to this Treaty may, in accordance with the provisions of the Charter of the United Nations, refer the matter to the Security Council."

CCD/PV.447

pp.15-16

Canada/Ignatieff

30.10.69

SB

41. The revised wording for article IV removing the veto power over amendments to the treaty, and the provision for a review conference, also represent amendments which in our view constitute substantial improvements to the draft treaty; although with respect to the latter we should have preferred a specific reference to the role of the review conference in relation to verification techniques.

42. I wish, however, that on the article of primary importance to Canada and to the majority of the members of the Committee the co-Chairmen had found it possible to be more responsive. I refer of course to the subject of verification, including particularly the protection of the rights of coastal States. In submitting certain comments on this subject earlier, I offered what I called a check-list of procedures to help to clarify just what the "right to verify" in the draft of the co-Chairmen might really mean (CCD/270). Several delegations have been most generous in putting this check-list to good use, and I should like to extend to them the grateful thanks of the Canadian delegation for their interest and support. I am afraid that the co-Chairmen have been more sparing and selective in the use to which they have put this check-list. In fact the reference in the revised text to the idea that governments "may" have recourse to the Security Council in the event that they are unable to resolve the question of a disputed installation on the sea-bed does not seem to me to give adequate recognition to a right which nations already have under the Charter.

43. Canada has consistently put forward the view that verification procedures must be devised which would guarantee the legal right of all States parties to the treaty to initiate the verification process and to obtain assistance if necessary. This should ensure that States fearing the existence of threatening installations would be able to invoke international arrangements through which they could be assured that the prohibition provisions of the treaty were not being violated. We have argued that ultimately -- and I stress the word ultimately -- only close physical inspection, if necessary with the help of States with advanced nuclear capabilities, will offer any adequate assurance of effective verification.

44. The necessity for such procedures in the verification process naturally led to concern on a fundamental issue, that there be provision in the treaty to ensure that in carrying out verification on the continental shelf any State party would take fully into account the rights and interests of the coastal State in activities on its shelf. We consider that the coastal State has the unrestricted right to verify activities of other States on its -- I emphasize "its" -- continental shelf, and that any provision for verification of the coastal State's own activities on its shelf must recognize the coastal State's right to be notified of and associated with such verification. At the very least, the treaty must not detract from such rights or appear to do so. We do not consider

that the disclaimer clause in the second paragraph of article 2 adequately covers this consideration.

45. In the Canadian view, the co-Chairmen's revised draft, therefore, while containing welcome improvements in the area of verification, does not adequately meet the concerns which we put forward and which have been echoed by a large number of the members of this Committee. We have not, however, given up hope that a meeting of minds may be arrived at if we pursue efforts to understand each other's problems in this important field; and, given the apparent willingness of the co-Chairmen to take into account the views and suggestions of members of the Committee, as reflected in the draft put before us this morning, we are convinced that satisfactory provisions can be negotiated. While reacting with reserve, therefore, to the provisions in the co-Chairmen's draft which deal with the verification, the Canadian delegation pledges its co-operation with everyone in trying to reach a formula which will be generally acceptable.

CCD/PV.447

pp.17-18

Italy/Caracciolo

30.10.69

SB

50. Having said that, it seems to us that on other specific points the amendments introduced are clearly insufficient. Thus we note first the absence of a rule reaffirming clearly and specifically the rights of coastal States over their continental shelf. A rule of this kind would, in our opinion, have found its natural place in article III concerning verification. On this subject, permit me to point out that the distinction between simple observation and the procedures of observation made in the Canadian working paper of 8 October (CCD/270), seems to us very pertinent. In fact, we cannot rule out that, in certain cases where it would be necessary to carry out such operations, it would be opportune to envisage special procedures which, without infringing the freedom of the high seas, would nevertheless take account of the rights of coastal States over their continental shelf.

51. Secondly, we remain convinced that the intervention of the Secretary-General of the United Nations in the verification mechanism, even though unaccompanied by a corresponding obligation on the technologically advanced States, could be useful as the expression, even if embryonic, of an international procedure. Consequently, we believe it necessary to adopt the provision suggested in the working paper of the Canadian delegation, which actually provides for recourse to the Secretary-General.

52. Lastly, I wish to make a more general comment. We cannot fully support the idea that every treaty entails different control requirements and that therefore the same provisions cannot be adopted in each case. We think, on the contrary, that similar criteria are desirable in order to avoid any imbalance. While it is true that no verification procedure can ever give entirely satisfactory results, it is also true that the level of confidence should be the same for all treaties and not higher for one particular treaty — for example, the non-proliferation Treaty (ENDC/226) — and lower for another. Indeed, if it is thought that for a treaty on the denuclearization of the sea-bed a lower level of confidence is sufficient, then we shall necessarily be obliged to take account of that difference in evaluation when we come to negotiate other treaties.

CCD/PV.448

p.7

Brazil/Frazao

30.10.69

SB

10. In fact the formulation of article III remains unacceptable to us, since it does not recognize — as we deem to be absolutely essential — that verification should not be carried out on the continental shelf of any State party, or in its superjacent waters,

without due regard to the exclusive rights of the coastal State; nor does it ensure the operative corollary of that position of principle — on which I dwelt at length in my last intervention (CCD/PV.444, paras.107, 117) — namely, the need to devise a system under which the coastal State would be duly notified of any forthcoming verification procedures on its continental shelf or in its superjacent waters, thus enabling it to co-participate in the verification operations if it so desired. Consequently we do not find in the joint draft adequate provisions aimed at giving express recognition to the sovereign rights of the coastal States, so as to satisfy the objections raised by Brazil and a substantial number of other delegations.

CCD/PV.448 p.11 India/Husain 30.10.69 SB

24. The revised joint draft treaty leaves untouched the core of the problem of verification; also it does not meet the basic concerns in that regard, nor does it allay the apprehensions expressed by several States that their rights as coastal States might be jeopardized or their security impaired by the implementation of any verification procedure that might be envisaged in a sea-bed treaty. It is therefore evident to my delegation that the valuable suggestions contained in the document submitted by the delegation of Canada (CCD/270) concerning verification procedures which should govern the right to verify need further discussion and consideration so as to incorporate the main concepts in the treaty in a suitable way.

CCD/PV.452 p.10 Poland/Natorf 24.2.70 SB

21. Finally, one of the controversial aspects of the draft lies in its verification provisions. In the course of our previous debate on this subject, it might be recalled, the Polish delegation was of the opinion that the provisions contained in article III would be technically sufficient (CCD/PV.444, paras.33 et seq.). Serious concern was expressed, however, by a number of coastal States which believed that such verification might be prejudicial to their national sovereignty. A number of very important arguments were advanced and specific suggestions were formulated by the Canadian delegation (CCD/270). My delegation would favour the adoption of most of the modifications on this point. The debate on this subject in this Committee has demonstrated a large degree of mutual accommodation and compromise, and that is why we are confident that it will be possible to reach agreement on a draft treaty for the sea-bed in a relatively short time.

CCD/PV.454 pp.8-9 Argentina/Ortiz de Rozas 3.3.70 CTB

15. The General Assembly has also asked the Committee (resolution 2604 B (XXIV)) to continue its deliberations on the banning of underground tests with nuclear weapons. Argentina has commented on this question in various international forums, and it is unnecessary to restate our position here. Let us only recall that the question of a verification system is the most difficult one before the Committee. In our opinion the scientific information available shows clearly that certain low-intensity seismic signals, though registered by national means of detection, cannot be identified as either seismological movements or tests of nuclear weapons. We can only hope that the Powers concerned will be willing to make concessions that could lead to effective verification procedures.

59. In the course of the General Assembly's debate on the question of concluding a convention on the complete prohibition of chemical and bacteriological methods of warfare, a number of States showed considerable interest in the question of ensuring the fulfilment by the parties to it of the obligations laid down in such a convention — the question of control. Many representatives drew attention in this connexion to the special nature of chemical and bacteriological weapons, the production of which is closely and specifically linked to the production of chemical and bacteriological substances for peaceful purposes. For this reason verification in the form, for instance, of control posts, the dispatch of on-site inspection groups and so on would be simply impossible from the practical point of view since, as several representatives at the General Assembly pointed out, it would be necessary to have controllers in almost every laboratory.

64. Article 4 stipulates that each State party to the convention shall be internationally responsible for compliance with its provisions by the citizens and undertakings of its country. Under article 5 the States parties to the convention undertake to take as soon as possible the necessary legislative and administrative measures in their countries to prohibit the development, production and stockpiling of chemical and bacteriological (biological) weapons and to provide for their destruction. The application of this article of the convention will be one of the ways of guaranteeing the implementation of this agreement and of achieving the aim of the complete prohibition and elimination of chemical and bacteriological agents of warfare.

65. We have already drawn attention to the view expressed by many representatives at the General Assembly that the establishment of any system of verification or control to ascertain whether or not chemical and bacteriological weapons are being produced in any particular country is an extremely complicated matter and unfeasible in practice, bearing in mind the specific features of chemical and bacteriological substances, the production process of which for peaceful purposes does not differ essentially from the process of their production for military requirements. The government of each State party to the convention will guarantee, bearing in mind its international responsibility in this regard, that no industrial enterprise and no citizen of that country is engaged in the development and production of chemical and bacteriological weapons and, it goes without saying, that no stockpiles of such weapons are being created in the military arsenals of that country.

66. Also directly related to articles 4 and 5 is article 6 of the convention, which states that the States parties to the convention undertake to consult one another and to co-operate in solving any problems which may arise in the application of the provisions of the convention. Article 6 leaves the States parties to the convention free to determine the principles and the scope of such consultations and co-operation, depending on the requirements that may arise in the course of implementing the convention. The consultations provided for in article 6 will enable the States, in a spirit of harmony, to settle any doubts that may arise in regard to the implementation of the terms of the convention. This is one of the provisions designed to make the convention an effective international agreement.

67. The combination of three articles of the convention — articles 4, 5 and 6 — is intended to ensure the observance of the convention by the parties thereto. These articles, we believe, meet the view expressed by a number of delegations at the General Assembly that it is necessary to ensure strict compliance by the States parties with the terms of a convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such

weapons.

68. We listened with great interest to the statement made by the representative of Poland, Mr Natorf, on 24 February in which he informed the Conference that a group of Polish experts had prepared a proposal dealing with the problem of safeguards, and that after consultation with the other sponsors of the draft treaty the Polish delegation would introduce this document when the Committee tackles the substance of the problem (CCD/PV.452, para.18). In this connexion the Soviet side declares that it is prepared to co-operate with the Polish and other delegations in the search for the most acceptable and effective solution of the problems relating to the complete prohibition and elimination of chemical and bacteriological weapons.

CCD/PV.456 pp.16-17

Yugoslavia/Vratusa

10.3.70

CBW

35. In this connexion I wish to point out the significance of current international action to ensure that all countries which have not yet done so adhere to the Geneva Protocol of 1925. As regards further possible measures in this connexion, we would propose that all countries proceed to —

First, immediate consideration of the possibility of placing, by law, all institutions engaged in chemical and bacteriological (biological) weapons research, development and production under the control of the respective ministries of health — that is, the civil administration;

Second, immediate examination of the possibility of unilateral renunciation of research into and production and stockpiling of bacteriological (biological) weapons and of the closing down of all facilities directly related to research into and production and stockpiling of biological weapons.

36. There is also the problem of verification. We are aware of the fact that this question is far from being clarified. We know there are many difficulties in this regard which, in my opinion, are soluble if the necessary political will for their solution exists. If we compare the risk involved in imperfect control with the risk involved in the continuation of the present danger of chemical and bacteriological (biological) weapons, the truth will be confirmed once again that the former danger is far less than the latter. I wonder, would it not be possible, in addition to our own efforts here, to set up a small group of competent experts with the task of presenting to us, for example in the next few months, proposals for the solution of the problem of verification?

CCD/PV.456 pp.24-25

Japan/Abe

10.3.70 CBW, C-O

63. I wish to believe that the coming into force of the non-proliferation Treaty and the forthcoming talks in Vienna were the indication of good promise for the acceleration of nuclear disarmament. By taking advantage of this momentum we should be able to find a way of achieving a comprehensive nuclear test ban, which would be an important first step towards nuclear disarmament. With this in mind I should like to urge that all the countries represented here, including the United States and the Soviet Union, will continue to make strenuous efforts to find a solution to this long-standing problem of a comprehensive test ban.

64. It is true that in order to achieve a comprehensive test ban there are still various technical problems to be solved, besides the political decision to be made by the nuclear-weapon States.

65. At last year's session of the Conference of the Committee on Disarmament the

Japanese delegation, taking into account developments in recent years in seismological means of detection and identification of underground nuclear test explosions, ventured to suggest a two-tier solution to the problem, based on a certain level of magnitude of underground events which are detectable and identifiable at present (ENDC/PV.424, paras.45-56; ENDC/260). The solution which our representative suggested may not be a perfect one from a technical point of view; nonetheless we believe that it is the most workable one that present circumstances permit. Therefore we should not abandon further consideration of such a solution merely because it is not technically flawless.

66. That is the reason why we appreciate the initiative taken by the Canadian delegation which led to the adoption of General Assembly resolution 2604 A (XXIV) concerning the question of an international seismic data exchange. We are firmly convinced that international exchange of seismic data constitutes the very first concrete step leading to the achievement of a comprehensive test ban. We would like to appeal once again to all countries, in particular to major countries directly involved, to respond to the request made to them by the United Nations Secretary-General (CCD/PV.450, para.18).

67. According to the General Assembly resolution, the required information is to be supplied to the Secretary-General by 1 May 1970. The Secretary-General, in turn, is asked to circulate all responses to governments and to members of the Committee on Disarmament. My delegation believes that the Committee should, during its present session, initiate the study of how to deal with the information which will be made available through the Secretary-General. I wish to point out that, if the Committee fails to take appropriate concrete measures to follow up that resolution, the valuable contribution of the Canadian delegation in this field (ENDC/251/Rev.1) may be rendered fruitless and the General Assembly resolution may remain yet another piece of paper.

68. In connexion with the question of a comprehensive test ban, on 18 February this year the representative of Sweden pointed out the problem of radioactive leakage from underground nuclear explosions (CCD/PV.450, paras.42-44). My Government shares the concern expressed by the Swedish representative. Moreover, we are much concerned over earthquakes or tidal waves which might result from underground nuclear explosions.

69. Another problem which we should not overlook, as it relates to one of the important measures leading to nuclear disarmament, is that of the cessation of production of fissionable nuclear materials for use in weapons and the transfer of such materials to peaceful purposes. In discussing nuclear disarmament we should take into consideration aspects of the quality and the quantity of nuclear weapons. In the view of my delegation the best way to check the qualitative sophistication of nuclear weapons is to achieve a comprehensive test ban, to which I have just referred. On the other hand, the most effective way to curb the increase in quantity of nuclear weapons is to halt the production of fissionable nuclear materials for use in weapons and to transfer existing stocks of those materials to use for peaceful purposes.

70. As in the case of other disarmament measures, the question of verification has been the biggest obstacle. In that connexion, the Japanese representative stated at last year's session of this Committee that a system of safeguards similar to that which is to be applied to non-nuclear-weapon States by the IAEA, in accordance with the Treaty on the Non-Proliferation of Nuclear Weapons must also be applicable as a verification measure in this case (ENDC/PV.416, para.70). My Government welcomes therefore the suggestion made by the United States representative last year that the cessation of production of fissionable materials for use in weapons be verified by means of IAEA safeguards (ENDC/PV.401, paras.7, 8). My delegation is hopeful that the Committee will discuss this question and that it will succeed in working out a draft agreement on this question.

76. The draft convention put forward by the Soviet Union and eight other States is more comprehensive with respect to the scope of weapons to be prohibited, as it covers both chemical and biological weapons. However, in the views of my delegation the draft convention fails to provide effective safeguards for ensuring compliance with the obligations of the convention, particularly in the case of violation of the prohibitions. We have noted in this connexion the statement of the representative of Poland on 24 February regarding the safeguards clause which he said would strengthen the main provisions of the draft convention (CCD/PV.452, para.18). We are prepared to study such a proposal when it is introduced to this Committee.

77. I wish now to turn to the United Kingdom draft convention. I feel that the draft as it stands, although it is very well written and obviously based on thorough study, does not adequately meet the wishes of my delegation, since the scope of weapons to be prohibited is limited to biological weapons. Yet apart from this the United Kingdom draft convention extends the scope of activities to be prohibited to the use, research, production and stockpiling of such weapons. Also it takes into account the question of ensuring compliance with the obligations of the convention.

78. The British draft convention provides that, in a case where a State party believes that biological methods of warfare have been used against it, the State party may lodge a complaint directly with the Secretary-General of the United Nations and request that the complaint be investigated. And in a case where a State party believes that biological methods of warfare have been used against another State, or in a case where a State party believes that another party has acted in breach of its undertaking regarding the research, production and stockpiling of biological weapons, the State party may lodge a complaint with the Security Council and request that the complaint be investigated.

79. If we confine ourselves to the question of the violation of the ban on the use of biological and chemical weapons, we believe that, on the basis of present technical knowledge and experience, the violation of the prohibition of the use of those weapons could be verified with a considerable degree of certainty, provided that the Secretary-General of the United Nations could act without delay on previously-arranged preparations for implementing such investigations, with the co-operation extended to him by competent international experts.

80. Difficulty remains in the case of a suspicion that the prohibition of development, production and stockpiling of these weapons is violated. Even in this case the procedure for lodging a complaint with the Security Council, or preferably with the Secretary-General of the United Nations, and the investigation of a complaint by the Secretary-General supported by the co-operation of competent international experts, would be effective to a considerable extent. We must admit, however, that verification is more difficult in this regard, both technically and politically, than in the case of the use of these weapons. Furthermore, in the view of experts in this field, verification of chemical weapons would involve much greater technical difficulties than that of biological weapons.

81. It does not necessarily follow that we cannot overcome the technical difficulties involved, however great they seem to be at present, as we make further progress in technical studies on this question. Accordingly, we still believe it useful, as suggested by my delegation last year, to hold an international meeting of experts to study technical aspects of verification relating to the prohibition of the development, production and stockpiling of chemical and biological weapons.

82. Those are the basic views of my delegation on the matters of substance regarding the prohibition of chemical and biological weapons. To sum up, they are as follows:

First, with regard to the scope of weapons to be prohibited, both chemical and biological weapons should be considered at the same time.

Second, the scope of activities to be prohibited should cover use, development, production and stockpiling.

Third, there should be established (a) a complaint procedure with direct recourse to the United Nations Secretary-General or the Security Council in case of the suspected violation of the prohibition not only of the use but also of the development, production and stockpiling of both chemical weapons and biological weapons; and (b) an arrangement through which investigation could be carried out promptly by the Secretary-General of the United Nations with the co-operation of competent international experts. (To this end we suggest that a roster of experts to be made available for such an investigation should be provided for and kept by the Secretary-General).

Fourth, an international meeting of experts should be held as early as possible in order to examine how to establish and improve effective means of verification for the compliance with the obligation of the prohibition of the development, production and stockpiling of chemical and biological weapons, with particular emphasis on chemical weapons.

I sincerely hope that other delegations here will present their views first on the matters of substance as illustrated today by my delegation, so that the Conference of the Committee on Disarmament may reach basic agreements on them in the course of our discussions. With respect to the question of a legal formula embodying such agreements, I should like to express the views of my delegation at a later stage; since this is closely connected with the outcome of our deliberations on the matters of substance.

CCD/PV.457

pp.18-19

Sweden/Myrdal

12.3.70

CBW

40. From a verification point of view it is necessary to state that, unless told that some laboratories were used for military purposes, one would be unlikely to be able to tell them apart from well-equipped laboratories for studying, for instance, air pollution, drugs or vaccines. While the research facilities themselves thus offer few and uncertain possibilities of monitoring from the outside the purposes they serve, whether peaceful uses or not, some pertinent information can now be culled from open scientific publications. To facilitate verification or to express it positively, to allay suspicions as to possible chemical and biological warfare research, great emphasis must be laid on open information. Where research is listed as "classified", particularly by a government agency or under a government contract, suspicion is easily aroused, of course. I think it can thus be said of research that work on chemical and biological agents shows the same general features. Research with regard to both these types of agents will most probably have to be exempted from prohibition as well as from obligatory verification.

41. But in regard to development work on weapons ready for application in war, the situation is somewhat different. Although much less is known, it is evident from the Secretary-General's report of last year on chemical and bacteriological (biological) means of warfare (A/7575/Rev.1) that comprehensive work has been performed in several countries to develop warfare agents and also devices for the dissemination of those agents. This work includes preparing instructions and manuals as well as performing regular training in handling chemical and biological weapons for warfare purposes. Such development work, as well as training, could be prohibited unconditionally. Again, although the forms of devices will vary in many ways, the prohibition of such development work may well be dealt with in one comprehensive treaty. Only with regard to the verification aspect may such differences exist as would call for separate treatment.

That question is closely related to the aspect of production of chemical and biological agents, to which I will return shortly.

42. Testing is another activity which has to be considered. Because of the secrecy and the dangerous nature of such trials, particularly when undertaken in respect of possible use in aerosol attacks, testing will have to take place in remote areas and at comparatively large testing sites containing a number of technical facilities and safety arrangements. It would seem to be possible to prohibit simultaneously the testing of chemical and biological warfare agents. For the purpose of verification some useful leads might be derived from surveillance of the site of and the security arrangements for testing areas; while in order to provide more conclusive evidence different techniques for various chemical and biological means of warfare might have to be foreseen.

CCD/PV.458

pp.14-16

Netherlands/Eschauzier

17.3.70

CBW

36. When Mr. Mulley tabled and introduced the draft convention on 10 July 1969 he pointed out to this Conference that verification, as that term is understood in disarmament negotiations, is simply not possible in the field of biological warfare (ENDC/PV.418, para.21). He gave two reasons: the agents which might be used for hostile purposes are generally indistinguishable from those which are needed for peaceful medical purposes, and militarily significant quantities of a biological warfare agent could be produced in a relatively small facility. We share the view that it is hardly possible to conceive a control system which does not contain loopholes. However, we want to reserve our position as to the question whether any control possibility has to be excluded once and for all. One could for instance think of introducing a system of inspection of declared facilities.

37. In this light we see merit also in the proposal which was first made by Mr. Asakai in our meeting of 14 August 1969 (ENDC/PV.428, para.47) and reiterated by Mr. Abe during the present session on 10 March (CCD/PV.456, para.81) that the study of the technical problems related to the verification of the production and stockpiling of chemical and biological weapons be entrusted to a group of competent scientists and technologists. We also fully agree with the representative of Japan that, in order to obtain conclusive evidence, any complaint procedure followed by an investigation requires speedy action. Mr. Abe pointed out that the Secretary-General of the United Nations should be able to "act without delay on previously arranged preparations for implementing such investigations" (*ibid.*, para.79).

38. Those considerations sound very familiar to my delegation. As long ago as 1962 the Netherlands Government launched an initiative in the General Assembly with a view to improving methods of "international fact-finding" and devising international machinery to that effect. Those efforts were pursued during subsequent years and resulted in the adoption by the General Assembly on 18 December 1967 of resolution 2329 (XXII), operative paragraph 4 of which reads as follows:

"Requests the Secretary-General to prepare a register of experts in legal and other fields, whose services the States parties to a dispute may use by agreement for fact-finding in relation to the dispute, and requests Member States to nominate up to five of their nationals to be included in such a register."

39. It is not difficult to transpose this general recommendation in terms of the specific requirements of the problem I am dealing with now. The suggestion of the representative of Japan, Mr. Abe, to establish a roster of experts with a view to conducting investigations (CCD/PV.456, para.82) is therefore warmly supported by my delegation. However, I should like to stress once more that in the opinion of my delegation the possibility of

devising some sort of a system of inspection should not be ruled out a priori but, on the contrary, should be thoroughly examined.

40. I come now to the socialist draft convention as presented to the General Assembly on 19 September 1969. Our main objection is that this draft convention deals with both biological and chemical weapons without providing for an adequate safeguards system. We cannot argue that the industrial and technological capability of the majority of nations is still not advanced enough to produce the horrible weapons we are discussing. I would like to remind the Conference of that part of the report of the Secretary-General on chemical and bacteriological (biological) weapons and the effects of their possible use which reads:

"Despite the fact that the development and acquisition of a sophisticated armoury of chemical and bacteriological (biological) weapons systems would prove very costly in resources, and would be dependent on a sound industrial base and a body of well-trained scientists, any developing country could in fact acquire, in one way or another, a limited capability in this type of warfare — either a rudimentary capability which it developed itself, or a more sophisticated one which it acquired from another country. Hence, the danger of the proliferation of this class of weapons applies as much to developing as it does to developed countries."

(A/7575/Rev.1, para.345)

41. We listened with great attention and interest to our Polish colleague when he stated on 24 February (CCD/PV.452, para.18) that a group of Polish experts has prepared a proposal dealing with the problem of an adequate safeguards clause and that it will be introduced in this Conference after consultation with the other sponsors of the draft convention. In view of that promise we will reserve our position on this point until later.

42. Article 4 of the socialist draft stipulates that:

"Each State Party to the Convention shall be internationally responsible for compliance with its provisions by legal and physical persons exercising their activities in its territory, and also by its legal and physical persons outside its territory." (A/7655)

We do not see clearly how a State can be held responsible for acts committed by unauthorized individuals outside its territorial limits. Responsibility is correlated to authority and influence, and a State's authority is confined to the territory within which it exercises sovereign rights. I would be grateful, therefore, to receive some clarification on this point.

43. We further believe that the language of article 1, containing the principal obligation, is not detailed enough. The socialist draft is limited to the prohibition of the development and production of chemical and biological weapons. Does this imply that all development and production of chemical and biological agents would be permitted as long as they were not included in operational weapons? This brings us to the very difficult problem of defining when an agent becomes a weapon. We therefore prefer formulas that make agents and not weapons the subject of prohibition, as exemplified in the United Kingdom draft convention to which I have just referred. That system constitutes a better guarantee that all options to retain a capability in this field will be given up.

CCD/PV.460 pp.6-8

Japan/Abe

24.3.70

SB

6. The third question is connected with article III, dealing with verification procedures. On this we have a working paper submitted by the Canadian delegation to the last session of the General Assembly (A/C.1/992). On some specific points in the Canadian

paper the Japanese delegation wishes to present the following observations.

7. The first observation relates to paragraphs (1) and (6) of the Canadian paper. As regards the words "the right to verify" in paragraph (1), we understand that such a right, if indeed we call it a right, should mean something more than mere freedom to observe. In other words, this paragraph should purport to set forth the general right of each State party for the purpose of verification of the observance of obligations under the treaty in accordance with the conditions and procedures laid down in the subsequent paragraphs of the Canadian paper.

8. The first step in such verification should naturally be "observation", as provided for in paragraph (1), but this by no means constitutes the whole right to verify. Therefore the language of this paragraph could be reworded so as to reflect the foregoing concept of verification. With respect to the relationship between certain existing rights under international law and the verification activities to be agreed upon under this treaty, it seems somewhat odd to single out in paragraph (6) the rights of a coastal State with regard to the natural resources of its continental shelf as if other existing rights need not be respected in relation to paragraphs (2) to (5). We should like to suggest that, in order to avoid such misunderstanding, paragraph (6) and the final part of paragraph (1) be combined, with an additional specific reference to the freedom of the high seas.

9. In the light of what I have just observed, I venture to suggest tentatively the following new wording for paragraphs (1) and (6) of the Canadian working paper. My suggestion is of course not meant to change the substance of those paragraphs.

10. Paragraph (1) of the Canadian paper might be reworded as follows:

"In order to promote the objectives of and ensure compliance with the provisions of this Treaty, each State party shall have the right to verify the activities of other States parties to the Treaty on the Sea-Bed and the Ocean Floor and in the Subsoil thereof beyond the zone referred to in article I in accordance with the conditions and procedures laid down in the following paragraphs."

11. Here a new paragraph would be inserted as paragraph (2), as follows:

"Such right of verification shall be exercised through observation in the first instance."

12. Paragraph (6) of the Canadian working paper would be modified as follows:

"All verification activities conducted pursuant to the Treaty shall be carried out in such a manner as not to interfere with activities of other States parties to the Treaty as referred to in paragraph (1) of this article, nor to infringe rights recognized under international law including the freedom of the high seas, and shall be conducted with due regard for the sovereign or exclusive rights of a coastal State with respect to the natural resources of the continental shelf recognized under international law."

13. My second observation concerns paragraphs (3) and (5) of the Canadian paper. With regard to these paragraphs I wish to recall the view of many delegations to the effect that the verification procedures should not be based solely on the good will of the super-Powers and that the principle of some kind of international verification should be reflected in the treaty.

14. For example, the Canadian representative stated on 18 November last year in the First Committee of the General Assembly:

"...verification procedures must be devised which would guarantee the legal right of all States party to the treaty to initiate the verification process and to obtain assistance, if necessary through appeal to an international organization, and not have to rely solely on the good will of the two nuclear Powers" (A/C.1/PV.1692, provisional, p.61).

The representative of Argentina stated on 20 November last year in the First Committee:

"I refer to Article III of the draft which deals with the verification procedure. In this aspect the provisions of the Treaty are inexplicably vague in our view. They are an exception to the usually accepted norm that any disarmament measure or any measure of 'no-armaments' must be accompanied by a system of strict international control." (A/C.1/PV.1695, provisional, p.16)

The representative of India stated on 1 December last, in the same Committee, that "the principle of some kind of international verification on the sea-bed is essentially sound and should be reflected in the treaty". (A/C.1/PV.1706, provisional, p.27).

15. These views do indeed touch upon one of the basic aspects of the question of verification and, that being so, are worthy of the Committee's most serious attention. We ourselves have given deep thought to them and have come to the conclusion that the Canadian formula, as contained in paragraphs 3 and 5 of the working paper, does perhaps reflect those views as much as the present circumstances permit and thus represents the most practicable solution at this stage. All in all, if we take into consideration the enormous difficulties involved in the process of verification in the extraordinary environment of the sea-bed and the ocean floor, and also the present level of technology available for conducting such verification, we can see that it would be extremely difficult to work out more stringent verification procedures than those provided for in the Canadian paper.

16. In this connexion we should like to emphasize that the question of verification should be one of the most important subjects of examination at the time of review of the treaty as envisaged in article V of the draft text.

CCD/PV.460 p.14

Canada/Ignatieff

24.3.70 CBW

....Obviously there will be great difficulties in the way of a complete ban on the production of all these agents. Nevertheless, despite the verification difficulties, the Conference might usefully examine, as suggested by the representative of the Netherlands the other day (CCD/PV.458, paras.36-37), exactly what safeguards might be feasible.

35. There are yet other chemical agents which it will be necessary to continue to produce, primarily although not exclusively for civilian use in the maintenance of internal order. A total ban on those agents presents certain difficulties; but on the other hand such agents can probably be identified now with relatively little difficulty and any exclusion of them from a general ban can be correspondingly taken into account.

36. The problems of effective safeguards, particularly on the side of chemical weapons, are not simple, but we are inclined to think that a full-scale discussion of these problems might well await progress on reaching a consensus in dealing with the particular problems that I have noted concerning chemical agents. Nevertheless, a useful preliminary examination might be made of the five main methods for formal verification identified in part IV of the SIPRI report which the representative of Sweden has circulated. These are methods of (1) administrative and budgetary inspection, (2) a search through the existing literature, (3) aerial and satellite reconnaissance, (4) remote sensors, and (5) visiting inspection teams. In fact, the Canadian delegation would like to suggest that these problems I have just mentioned might be discussed at a technical level in an informal meeting or series of informal meetings attended by relevant experts. If this were the feeling of the Committee, our delegation for one would be prepared to bring an expert to Geneva and to participate in such a meeting or series of meetings.

31. In regard to verification which has been mentioned here so many times, it should be said first of all that chemical weapons have been prohibited by the Geneva Protocol for more than forty years now and the prohibition has been respected without any difficulty as to control. True, the Geneva Protocol prohibits only the use of weapons, not their development, production and stockpiling. When on 10 July 1969 the representative of the United Kingdom tabled and introduced the draft convention on the prohibition of biological weapons (ENDC/255) he pointed out to this Conference that "verification, in the sense in which that term is normally used in disarmament negotiations, is simply not possible in the field of biological warfare." (ENDC/PV.418, para.21) We agree with that statement and we think that it holds true also in the case of chemical weapons. Problems of control of the two types of weapons are, after all, very similar. It is known, for example, that there exist types of chemical weapons which are practically developed in the air in the course of the track of a missile filled with two non-toxic agents, which are transformed into poisonous gas only shortly before the missile hits the target. Could we reasonably assume, unless there were agreement on general and complete disarmament, that a State would allow to be subjected to inspection its ammunition factories, ammunition assembly lines and all other processes of military production, which have been the object of strict military secrecy since time immemorial? On the other hand, we agree that there can be no agreement without control. However, we should find a method of control which would be effective and would correspond to the prevailing conditions. We await with the utmost interest the proposals of the Polish delegation in this connexion as referred to by the representative of the Polish People's Republic at the Committee's meeting on 24 February (CCD/PV.452, para.18). At the present juncture I should like to point out that control, although necessary, must be realistic, and that demands for a method that would not correspond to the prevailing conditions must not become a pretext for rejecting agreement.

18. I should like to come now to the second aspect of the problem on which we have had a lot of discussion in this session, namely, that of verification. So far we have concentrated largely on the technical problems of verification in the chemical warfare field. Clearly those problems are very difficult, but I get the impression that already we have made some progress at least in defining them. In her speech on 12 March, Mrs. Myrdal described many of the problems with which we are faced (CCD/PV.457, para.28 et seq.). Mr. Roshchin, in his speech of 3 March, referred to "verification in the form, for instance, of control posts, ... on-site inspection groups and so on..." which he then concluded "...would be simply impossible from the practical point of view since, as several representatives at the General Assembly pointed out, it would be necessary to have controllers in almost every laboratory," (CCD/PV.454, para.59). The SIPRI report points out in this context that one would have to establish and verify the final destination of products, although it does not go into the problem of verifying the existence or absence of undeclared facilities.

19. Perhaps I might add in passing that, valuable though the SIPRI chapter on verification is, it must I think be regarded as no more than a preliminary and partial study, because it takes little account of political realities. For example, much of the factual data that it provides on production, storage and testing of chemical and biological warfare comes from only one country, the United States of America; and in both the chemical and biological sections, which are, we might note, separate, the problems of

verification are discussed on the basis of declared facilities freely open to inspection. But where the technical publications and other sources of open information are freely available, of course it is possible to accept a lower standard of formal verification than in cases where the relevant information is more closely guarded.

20. On the other hand, although this study does not lead to a very encouraging view of the possibilities of verification in an arms control sense, I feel that the SIPRI experience of biological weapons inspection might well prove useful in considering the complaints procedure which is envisaged under article III, paragraph 2, of the United Kingdom draft convention. I should like to draw the attention of the Committee to an important aspect of this draft: it is that many of the problems and difficulties of investigating accusations of use of chemical and biological agents described in the SIPRI study would be overcome by the procedure envisaged under article III, paragraph 1, of the United Kingdom draft convention, and I commend the study of that to my colleagues in the Committee.

21. Mr. Roshchin referred to an indirect aspect of verification when he described the provision in the draft submitted by the Soviet Union and its allies for States parties to such an agreement to undertake as soon as possible the legislative and administrative measures necessary to prohibit the production and stockpiling of chemical and biological weapons and to ensure their destruction. He explained that:

"The application of this article of the convention will be one of the ways of guaranteeing the implementation of this agreement and of achieving the aim of the complete prohibition and elimination of chemical and bacteriological agents of warfare." (CCD/PV.454, para.64)

I must confess that I am not entirely convinced by this proposition. I quite understand that before ratifying any convention any State party to a treaty would have to ensure that its national legislation enabled it to fulfil its international obligations. That much is obvious. What I am not so sure about is what legislative measures would be required in a State which already directly controlled all its means of production.

22. Perhaps I should refer now to another interesting reference in the speech of Mr. Leonard of the United States of America on 17 March. He referred to the technical possibilities of verification by monitoring and inspection techniques (CCD/PV.458, para.61), and I wonder whether even if these were politically acceptable they would be adequate for States which do not have sophisticated means of detection and monitoring at their disposal. The fact is that a chemical warfare potential is within the easy reach of the great majority of States. Any country with a well-established chemical and pharmaceutical industry could easily acquire a chemical warfare capability, probably without detection. We must therefore evolve verification procedures that can be adopted universally, globally, and which take account of both technical and political difficulties.

23. One further problem of verification in the chemical warfare field was raised by Mrs. Myrdal in her speech on 12 March when she suggested that it might be necessary to differentiate between certain chemical agents which could be unconditionally prohibited and verified as effectively as possible and other chemical agents which would have to be conditionally prohibited and perhaps subjected to an obligatory reporting procedure (CCD/PV.457, para.45 *et seq.*). We look forward to hearing more from Mrs. Myrdal about these concepts and in due course perhaps her views on whether, if I may quote her previous speech:

"...our Committee should work out one comprehensive treaty, such as exists in regard to the prohibition of the use of chemical and biological warfare, or two or perhaps even several separate treaties on the wide complex of prohibiting also development, production, stockpiling, etc. in this field" (*ibid.*, para.57).

My preliminary view — although I have said that I would very much like to hear more on these concepts — is that with several separate treaties in the field of chemical weapons the problems of verification would become even more complicated than they are now. But the same difficulty does not exist with separate treaties for biological and chemical weapons, and the United Kingdom draft, I suggest, deals with a complete category of weapons in a coherent and consistent manner.

24. Before I leave the subject of verification I think it might be as well to remind ourselves — although I am sure that no one in this room needs reminding of it — that disarmament and arms control are not simply technical matters; they are highly political as well. We cannot deal with disarmament here in Geneva in a vacuum. The safety of all our peoples is at stake. It is possible to argue — and I myself would argue it strongly, and have done so here in the past — that the only real security for any of us lies in a disarmed world, a world subject to the rule of law, from which violence and the threat of violence in pursuit of national interests has been completely and effectively banished. But we do not live in that world yet. We live in a world of independent nation States, of military alliances and of weapons of appalling destructive power. And while we are seeking, as we must seek, to achieve effective measures of real disarmament we cannot ignore the realities of the world we live in.

25. The object of any arms control measure is to increase security for all of us; or at any rate to ensure that it is not diminished. If we try to ban chemical weapons without an effective verification system the risks to security may be great — too great, in fact, for many countries to accept. In the first place, the threat of retaliation in kind is still the most potent force against the use of chemical weapons. This is not the case with biological weapons which, as I have already said, contain their own built-in threat to the country that uses them. Secondly, there would be very significant military disadvantages to a State which renounced them and no longer had them. The fact is — and this cannot be said too often — that chemical warfare, unlike biological warfare, is a form of warfare which has a substantial history of actual use and of which large and comprehensive armouries already exist. It is possible to doubt the value of chemical weapons in any specific military situation; but as an example let us look at two of the purely military implications, which might affect anybody, of a situation in which one side in a conflict had chemical weapons and the other had not. Suppose that the first country used nerve gas against the troops of the other. With no chemical weapons with which to retaliate the immediate temptation would be to escalate the war to a much higher level, possibly even in some cases causing the nuclear threshold to be crossed. Furthermore, even if chemical warfare were not actually started, the country which had no chemical weapons but which could not be sure that its adversary had given them up would have to equip itself with all the expensive and cumbersome paraphernalia of defensive equipment.

26. I say this and I give these apparently small military examples not in any attempt to confuse or cloud the issue but rather to try to clear it, because we must realize, I think, that no responsible government is likely in the present world climate to take what it would consider to be unjustifiable risks with the safety of its people and the effectiveness of its military forces. So we shall need adequate verification of any agreement to ban the production and stockpiling of chemical weapons. For this reason I must say in all honesty that so long as some countries remain resolutely opposed to effective verification systems an early agreement that would cover both biological and chemical weapons is, to put it very mildly, unlikely.

90. I should like now to turn to the intractable problem of verification. The Soviet draft does not go beyond seeking the consent and co-operation of States signatory to the treaty for resolving questions which may arise in connexion with the implementation of the treaty. This is an important issue, particularly where, as in this case, effective and meaningful verification is essential. Any system of verification must be credible and must inspire confidence in order to avert the slightest suspicion on the part of signatories to the treaty. In addition, a verification arrangement should have an element of deterrence to would-be violators. Fortunately the evidence is that such a credible verification arrangement is possible. In the latest report of the Stockholm International Peace Research Institute (SIPRI) on the problem of chemical and biological warfare, five main methods which could be used for formal verification are listed and it would appear that, contrary to our earlier idea that those weapons can easily be produced in back-room kitchens or in garages, the safety and other technical problems of manufacture and control make it necessary for production to be carried out in large identifiable units. Here again the provision in the United Kingdom draft for a complaints procedure and for security assurances would appear to be appropriate for consideration in order to strengthen the Soviet draft.

91. My delegation would also like to see included in the Soviet draft an obligation on parties to the treaty to assist one another if they are victims of a chemical or biological attack.

....Furthermore we still maintain that the rights of coastal States should be guaranteed and the verification procedures amended in line with the Canadian proposals (CCD/270). In this connexion we observe that the revised Canadian proposals submitted in New York (A/C.1/992) have been weakened, particularly in regard to the right to inspection of suspected installations and the right of coastal States in regard to inspections on their continental shelves. I believe that the adoption of the original Canadian proposals would ensure a wider acceptance of the proposed treaty. Finally, we find the Argentinian amendment (A/C.1/997) to articles I and II to be an acceptable compromise. At least it specifically defines as twelve miles the outer limit of the coastal zone beyond which the prohibition of the emplacement of weapons of mass destruction would be effective, although it still relates that definition to the provisions of the 1958 Convention on the Territorial Sea and the Contiguous Zone.[United Nations Treaty Series, Vol.516, pp.205 et seq.]

97. I hope that in order to save time and ensure the successful conclusion of the sea-bed treaty the co-Chairmen will not only take those views into consideration in revising their text but will also arrange extensive informal discussions of the revised draft when it is ready and before it is formally submitted.

3. Let me say first that we must, as always when exploring possible methods of verifying compliance with any measures of disarmament, avoid the risk of setting such standards of perfection that the proposal is effectively killed the moment it is put forward. The majority of speakers have spoken in general terms of the need for verification. But we must surely beware of stating too categorically that verification is indispensable lest progress be deadlocked. We have authoritative statements to prove that it is possible to forego control. I am thinking of the unilateral pledges by some nations about refraining from production of certain chemical and biological weapons. In the case

of the United States this refers to a total prohibition of production and stockpiling, together with the final elimination of all biological agents and one chemical type of agent — namely toxins — without referring to any need for reciprocity or verification. In the case of Canada we have an equally unconditional declaration of non-possession and also the renunciation for the future of the development, production, acquisition or stockpiling of all biological weapons and all chemical ones, with a reservation concerning just one of the latter, namely riot-control agents, the position of which is left unclarified (CCD/PV.460, para.37). No request for reciprocity or for a system of verification is made in this context. I should add that only the formal withdrawal of the reservation about retaliation which Canada made in regard to the use of these weapons when ratifying the Geneva Protocol is made contingent upon the attainment of "effective and verifiable agreements" (*ibid.*). More countries may be expected to be ready for unilateral, unconditional renunciation of chemical and biological means of warfare without raising the question of verification. It would of course be particularly welcomed if the action taken by the United States were emulated by the other major Powers.

4. While it has thus been demonstrated that a wide door is kept promisingly open for considerable progress by national decisions to surrender unconditionally the right to possess chemical and biological weapons, it nevertheless remains the task of this Committee to elaborate internationally-binding multilateral agreements, preferably universal in scope and covering all agents without exception. It is within that framework that we have to study to what degree verification is essential and in what forms it may be realistically implemented.

5. Again, a warning note must be struck against over-reliance on perfectibility. Or, to quote the representative of Yugoslavia, Mr. Vratusa:

"If we compare the risk involved in imperfect control with the risk involved in the continuation of the present danger of chemical and bacteriological (biological) weapons, the truth will be confirmed once again that the former danger is far less than the latter." (CCD/PV.456, para.36)

Verification can never be and need not be 100 per cent effective. What is required is a sufficiently high probability of detection to provide deterrence on one side and reassurance on the other. One might discuss, as has been done in the SIPRI study on verification, [The Problem of Chemical and Biological Warfare, part IV - Verification] a 50 per cent probability of detection as constituting a sufficiently high barrier of deterrence against cheating. Even this figure might, however, be too high to be realistic in the sense that it would call for more intensive monitoring than is likely to be acceptable to all prospective adherents to an agreement. One might discuss the figure of 30 per cent or even 10 per cent as constituting a sufficient barrier.

6. My colleagues may remember that in the discussion we had earlier in this Committee on the problem of verification in connexion with the comprehensive test ban the Swedish delegation offered some suggestions for a solution based on a statistical method of evaluation and applying modern decision theories. I refer particularly to the working paper we put forward in July 1967 (ENDC/191). For the calculations referred to in that paper we placed the disclosure probability level at 10 per cent, meaning that a prospective violator would have to face one chance in ten of being exposed. This level, we estimated, would be high enough to deter States from violations in view of the considerable political costs involved in a disclosure. That figure was later challenged, particularly by the United States delegation, as being too low. I want today, however, to draw attention, not so much to any specific percentage figure as to the scientific logic we then followed in order to show that the basic problem of obtaining reasonable assurance coupled with reliable deterrence is a common one which we meet whenever we try to draw up a disarmament or an arms-control measure. This is so because the essential

feature is always a substantive obligation of a negative character; in the case we are now discussing an obligation not to develop, manufacture or stockpile chemical and biological means of warfare.

7. The main objective of any verification procedure is that it should generate mutual trust. Whenever dealing with matters of verification, the Swedish delegation has argued for the necessity of relying on two basic principles intended to create that mutual trust and make it grow, namely (a) the principle of open information and (b) the principle of internationalization.

8. A lead in the same direction, more specifically as to the value of openness, has been given by President Nixon when announcing the spectacular renunciatory action taken last autumn. In regard to biological weapons he declared in his statement of 25 November 1969 that the United States would confine its research in this field to immunization and safety measures. It was also said that the military research laboratories would be transferred to civilian agencies concerned with research in such important peaceful fields as immunization and protection against diseases. Further, disposal of existing stocks of bacteriological weapons was promised. In February of this year similar action was taken in regard to toxins, mostly regarded as chemical warfare agents. This series of measures thus announced by the United States would seem to ensure full openness for the future as to research, development, production and stockpiling in that country of biological means of warfare and of toxins.

9. The representative of Yugoslavia, Mr Vratusa, made the suggestion in his speech on 10 March to which I have already referred that all States should place their institutions engaged in chemical and biological weapon research, development and production under civilian administration, for instance by their respective ministries of health (CCD/PV.456, para.35).

10. The initiative to this effect taken in the United States and similar initiatives which have been or may be taken in other countries will become of immense importance for increasing the quality of life on our planet. Microbiology is a fast-growing part of the "life" sciences which help us to conquer dreaded diseases. All such efforts are particularly important for that majority of inhabitants of the globe who live in so-called developing countries. The continuing fight against disease, malnutrition and hunger, in which the scientists concerned with microbiology take a leading part, concerns those countries in a most direct way. If seen in this light, our efforts to stop all development for military uses of the biological agents take on their full meaning. And this is also true of many chemical agents which combat attacks by mould, insects and other parasites on our crops and other foodstuffs and promote development of new means of nutrition such as proteins and vitamins. The possibilities of improving life would become greatly enhanced if we refrained from producing all these agents for the purpose of the death and destruction of man.

11. If, as an exercise in formulating possible solutions, the Swedish delegation were now to attempt to sketch an international verification system for the prohibition of chemical and biological weapon production etc., we would place the requirement of open information as the first and fundamental element. But let me add immediately that we recognize the political difficulty of reporting on weapons, that is on chemical and biological agents which have become "weaponized", ready as munitions. On the other hand, we see great positive value in open reporting on the agents themselves.

12. This distinction becomes of paramount importance when we have to decide on the legal formulae for our prospective prohibitory regulations. I hope my colleagues will agree with me that we need a kind of twofold approach, as in the non-proliferation Treaty where article II prohibits the acquisition of "nuclear weapons" while article III on safeguards focuses upon "source or special fissionable material" (ENDC/226*). The principal article in a treaty on chemical and biological weapons likewise would probably

have to prohibit the production and possession of weapons themselves. On the other hand, subsidiary regulations would have to be introduced dealing with the production etc. of agents, possibly in some language such as "agents which constitute possible components of chemical and biological weapons", but also with the important proviso in some such terms as "except for specified peaceful purposes" — and I would like to emphasize "specified peaceful" purposes. Such a pattern would make it possible to take into consideration the distinction I advocated in my last intervention on this subject on 12 March between what I called unconditional and conditional prohibition, the latter intended to cover the situation in regard to substances having considerable peaceful uses (CCD/PV.457, para.44 *et seq.*). The open reporting which we are suggesting as the basic element of verification would also be concerned with the agents rather than with weapons.

13. In regard to biological agents a requirement for open information could immediately be made all-inclusive. With research and development as well as production limited to laboratory requirements for protective purposes, all need for secrecy would seem to disappear. On the contrary, unrestricted publication of scientific and technical work aimed at the international community would open the benefits to the whole world, as I have just indicated. The fight against disease is of universal interest. In particular, countries more developed in biological science and technology would be given better opportunity for sharing their results with countries lacking comparable research resources.

14. A similar course of action could be followed in large part in regard to chemical agents. A number of these have no civilian application, including all toxins, most nerve agents such as tabun, sarin, soman; all blister agents, such as sulphur and nitrogen mustards; and psychochemicals such as LSD. In addition, however, certain other chemical agents have a wide use for both military and civilian production. In this latter case secrecy may be a prerequisite for profitable commercial production. The form and content of the information would obviously have to be different in these cases.

15. I think the advice of experts would be needed on how such reporting as we may agree upon should be detailed for different agents in both the chemical and the biological fields, that is in regard to transmitting publications on scientific research and to government notifications concerning the flow of chemical and biological agents from production to different uses. One might possibly apply some relevant indicators, such as the number of personnel engaged in certain activities, the figures for sales, or other measurable factors. Several delegations have already mentioned the need for experts to come together to present us in the next few months with detailed information on various technical aspects of the problems of verification. I would like once again to add the voice of the Swedish delegation to the support of these suggestions.

16. I just said that "open information" seems to us to be one of the pillars of a verification system, the second being "internationalization". What we feel to be strictly necessary is an obligatory international reporting system applying to both qualitative and quantitative factors, that is both as to new developments and as to bulk of production. To include in the text of a treaty an obligation for governments to report continuously or periodically would seem to be essential in connexion with the prohibition, as envisaged, of the acquisition of chemical and biological means of warfare. The detailed procedures, particularly as to how to deal with "agents produced for specified peaceful purposes", might be laid down in an accompanying protocol annexed to the treaty, both because various agents have to be treated differently — the demarcation line, however, not lying entirely between chemical and biological agents as separate categories — and because expectations of technological changes call for a type of agreement which could be amended more rapidly and easily than the fundamental rules of the treaty itself.

17. A definite hurdle so far has been the selection of the proper international organ

which should be given the duty of receiving, storing and preferably analysing and distributing the information contained in the reports. For the biological agents and for some chemical agents the World Health Organization may seem to be a natural choice as it already has the essential technical know-how. For some other chemical agents, particularly those going through industrial production for civilian uses, it is more difficult to indicate a focal point in the international system of agencies and organs. The Food and Agriculture Organization may be one possibility. In the final instance, when the prohibition of chemical and biological means of warfare has become part and parcel of general and complete disarmament, there will of course be available a specialized disarmament agency, the international disarmament organization provided for in the general draft treaties of 1962 (ENDC/2/Rev.1, ENDC/30 and Add.1-9). But even before that there will be an obvious need to enlist the co-operation of scientists specialized in the various fields concerned, and possibly also their international organizations. That, again, belongs to the questions calling for further penetration.

18. The willingness to report, openly and internationally, on national activities related to development and production of chemical and biological agents seems to us to be the indispensable first requirement in a verification system. A second part might be an agreed complaints procedure, containing further possibilities of obtaining assurances that circumvention was not taking place. The question if, and in what form, that should in turn be followed by a procedure for applying sanctions I shall deal with a little later. That is usually part of a different article in similar treaties, most often in the form of a right of withdrawal. The complaints procedure, on the other hand, should definitely be part of the verification system. We have had occasion to amplify that view in considerable — and we hope constructive — detail in another context, under the label "verification by challenge". I refer to the working paper put forward by my delegation on 1 April 1969 outlining possible provisions of a treaty banning underground nuclear weapon tests (ENDC/242).

19. The United Kingdom draft treaty on biological warfare (ENDC/255/Rev.1) presents, albeit in an abridged form, just such a method of clarifying suspicious events or activities. The procedure suggested in its article III, paragraph 1, appears to us in its general outline to be a valuable one. The United Kingdom draft does not provide for queries directly from one party to another party. That may be based on the argument that the right to raise such queries always exists. We considered it valuable however — in the different context mentioned — that there should be established an obligation on the other party "to co-operate in good faith for the clarification of all events pertaining to the subject matter of [the] Treaty" (ENDC/242, article II).

20. Whether it is preferable, as the United Kingdom draft suggests, instead to turn immediately to an international organ depends, of course on (a) whether such an organ is entrusted with a specified function in relation to the treaty and (b) whether that organ — or perhaps the Secretary-General of the United Nations — has at its disposal the experts needed for investigating complaints. Anyway, even if a shortened procedure should be prescribed, we would favour the complaints being lodged with the Secretary-General rather than directly with the Security Council, and the automatic procedure of investigating complaints being made applicable to suspected cases of breach of the prohibitions on production, stockpiling, etc., as to our minds the prospective treaty should not concentrate on complaints about use of chemical and biological weapons.

21. It would seem to us preferable that lodging a complaint with the Security Council should be treated as a separate possibility, to be utilized at the discretion of the complaining party after the results of the investigation by experts had been submitted: this in order not to make complaints "political" and perhaps incriminating at an early stage and also in order to separate the functions of investigation and political judgement. The Swedish delegation, prima vista, prefers a procedure in several stages which

gradually, and with increasing seriousness, would seek clarification and thereby as far as possible help to reduce tensions and avoid denunciations. Again we are reminded how much more flexibly, and at the same time adequately, complaints procedures would be handled if we had arrived at such a stage of general and complete disarmament that there was an international disarmament organization in operation. Be that as it may, we can see that there might be a need for a Security Council function of judging and, in cases warranting it, deciding on sanctions.

22. Other delegations may wish to suggest other methods of verification than the ones I have just outlined, particularly if they have in mind other targets for control. I have not wanted to exclude any verification methods on which general agreement could be reached, but in this statement I have concentrated on those elements of a verification system which would seem to us to be primarily necessary for incorporation in the legal instrument which is to constitute an agreed ban on production, etc., of chemical and biological weapons.

23. Obviously there are available many other modalities for obtaining security. They include aerial surveillance of field testing, information on training analysis of budgetary provisions, inspection teams, etc. It has seemed to my delegation that such control methods, which are already to some extent applied by national agencies, would with a growing improvement in the climate of trust come to be voluntarily used more and more, first bilaterally and then, perhaps, also regionally. While such a development should be encouraged it would seem to us premature to prescribe immediately a fully-fledged system of any of those methods for compulsory use by an international organ. That would, *inter alia*, involve considerable costs in terms of financial resources, in terms of experts and in terms of political discomfort. It may well come to pass that as we in the Committee on Disarmament continue to study the possibilities of verification some of those methods may have proved their diagnostic importance, their practical feasibility and their political acceptability, so that they can be included in our general agreement. The main thing at this juncture must be to proceed jointly and in confident co-operation with a relentless search for solutions acceptable to all delegations.

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24. I shall now proceed to make a few comments on our working paper (CCD/285), which has just been distributed, and I will do this in connexion with certain articles of the draft convention contained in document A/7655.

25. The system of complaints embodied in our proposal now before you has been inspired to a large extent by the provisions on verification formulated in the United Kingdom draft convention dealing with biological warfare alone. By referring all problems having a direct impact on the security of nations to the Security Council we are making proper use of the only organ of the United Nations which has the power to enforce necessary decisions and is authorized to undertake such forms of investigation as are necessary and derive from the character of the complaint.

26. In the second paragraph of the proposed new article we state the obligation of every State party to the convention to co-operate in carrying out any investigations which might be decided upon by the Security Council. Should the Security Council decide, for example, on the need for an on-site inspection, then of course that inspection should be carried out. A very interesting suggestion, in my view, for securing speedy action in such a circumstance was put forward here by the representative of Japan in his statement of 10 March. He proposed that a roster of experts on biological and chemical warfare be prepared by the Secretary-General of the United Nations to be used for on-site inspection should the need arise (CCD/PV.456, para.82). The Polish

delegation will not fail to give this proposal more thorough analysis.

27. When we speak of a system of verification and control our primary concern must be to ensure that this remains within the scope of obligations assumed under the treaty. In proposing the said addition to the draft convention we are fully aware of the fact that any system of complaint and verification must be credible and must inspire confidence in order to avert suspicion on the part of any one of the signatories. On the other hand, we must always bear in mind that when seeking the most perfect methods of compliance with any measure of disarmament political realism should remain our guide if we really desire to make progress. Indeed, we fully share the view expressed by the representative of Sweden, Mrs. Myrdal, in her statement on 9 April 1970 that "the main objective of any verification procedure is that it should generate mutual trust," (CCD/PV.463, para.7). We agree with this and accept it to be the very essence of co-operation. Based on good will it may prove to be the most efficient if not the only way to solve differences that might arise in the future between parties to the convention.

28. We also accept the view of the representative of Sweden that a complaints procedure does not ensure full, positive observance of the provisions of the convention by all the parties concerned (ibid., para.3 et seq.). But we should like to draw the Committee's attention to the fact that in the last two preambular paragraphs of the draft resolution of the Security Council proposed in our working paper we twice stress the necessity to undertake proper steps to ensure strict compliance with the obligations stemming from the convention. That means that the Security Council, in accordance with its statutory function deriving from the United Nations Charter, would be in a position to take all appropriate steps resulting from the process of the investigation so that any would-be violator would have no chance of escaping sanctions.

29. We well know that there are delegations which hesitate to rely solely on the Security Council on questions relating to the application of safeguard measures because of the veto power of its permanent members — or should I say rather because of the provisions for consensus among the major Powers. We would not argue that one could not conceive theoretically a more sophisticated and effective system of security than that provided for in the Charter of the United Nations. But, let us face it, no better system of security has been worked out so far and we doubt whether the foreseeable future will bring changes in this respect. We are persuaded that the present system is valid and fully adequate for the purpose of a convention on chemical and bacteriological (biological) warfare. On the other hand, we have to concede that in the past any painful problems of international relations remained unsolved and some still await solution, not because of any shortcomings of the Charter but simply as a result of insidious disregard by some Powers of its provisions and of the decisions of the Security Council.

30. The consideration of our working paper should be in no way separated from that of other provisions of the draft convention and in particular of its articles 5 and 6. Article 5 is an important instrument safeguarding compliance with the provisions of the convention. It provides for the early adoption and enforcement by States — of course in accordance with their constitutional procedures — of the necessary legislative and administrative measures pertaining to the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and to their destruction. One should not underestimate the importance of the subject matter and the enforcement power of its provisions. As in other well-known international instruments of that same type, the draft convention envisages the need to supplement international obligations of States by corresponding national and administrative measures.

31. A pertinent interpretation of administrative measures that may be undertaken in the fulfilment of the provisions of article 5 of the draft was spelled out by the representative of Yugoslavia, Mr. Vratusa, in his statement on 10 March when he suggested that all States should place their institutions engaged in chemical and bacteriological

(biological) warfare research, development and production under civilian administration (CCD/PV.456, para.35). We are happy to know that this interpretation of article 5 has met with support from many speakers here.

32. Another possible important administrative measure connected with the implementation of article 5 of the draft convention might be the inclusion in the textbooks of schools and universities dealing with chemistry and biology of a precise indication that the use of any chemical formula or any biological agent for any warlike purposes constitutes a violation of international law and will be prosecuted in accordance with the appropriate national legislation. Every individual must become aware of the danger represented by chemical and bacteriological (biological) weapons and must be prepared for some form of participation in the enforcement of the convention prohibiting the development and production of those inhuman means of warfare.

33. I cannot of course abuse the patience of this Committee by multiplying examples of possible measures in this field. We are ready to co-operate in spelling out other possible practical measures to this end. In these considerations we are guided by our deep conviction of the necessity of mobilizing the masses of the peoples of the world against all the dangers of modern warfare in order that they may not be taken by surprise from ignorance of the lethal armoury sometimes built up by their own governments. As Mr. Gomulka said in his speech at the United Nations General Assembly in 1960:

"It is of the utmost importance that mankind be fully aware of the dangers inherent in modern warfare. We have no right to conceal from the nations the truth about the real effects of nuclear arms and of weapons of mass destruction. On the contrary, we are in duty bound to spread this truth in order to make it easier for all nations to join their efforts in the struggle against the threat of war for general and complete disarmament"
[Official Records of the General Assembly, fifteenth session (part I), plenary meetings, 874th meeting, para.91.]

Those remarks uttered in 1960 guided our delegation when it proposed a substantive report by the Secretary-General on the effects of atomic weapons and, more recently, of bacteriological and chemical weapons, and we have always advocated extremely wide distribution of this kind of information.

34. The undoubted value of the safeguard provisions contained in article 5 of the draft convention rests on the consciousness and awareness of millions of people, particularly those workers, farmers and technicians who are proud of their participation in the building of a better world, not in its utter destruction. Together with the scientists engaged in research and given the proper instrument of internal law their attitude can constitute a valuable guarantee that the convention now proposed by the socialist States will not be violated, and we hope that in this respect we are neither romantic nor unrealistic; we are feeling the importance of the pressure and attitude of public opinion.

35. The problem has been raised of how national enforcement could be carried out in different economic and social systems. This does not seem to be a great problem. When the interests of entire populations are at stake, when we are dealing with crucial problems of peace and human survival or utter destruction, the feelings and actions of individuals are very much the same irrespective of the political system under which they live. As far as we are concerned, I stress again that we firmly believe in their final judgement. And may I be permitted to say that we cling firmly to the principle enunciated by Lenin that "disarmament is the ideal of socialism". I say that because we are now approaching the one-hundredth anniversary of Lenin's birth and it is all the more appropriate to reaffirm that for us, a socialist country, his heritage means not only disarmament but also the lessening of international tension, peaceful coexistence and peaceful co-operation, however greatly the ideas of Lenin and Marx may be twisted by their opponents.

36. What we are proposing is indeed a combination of international and domestic legal procedures which would make it extremely difficult to bypass the provisions of the convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such weapons.

CCD/PV.464 pp.19-21

Mongolia/Durgersuren

14.4.70

CBW

46. My delegation is fully aware of the fact that the problem of verification in the case of the prohibition of chemical and bacteriological warfare is a complicated one. This complexity is probably connected primarily with the fact that many intermediary substances are used for the manufacture of chemical and bacteriological weapons, and in some cases even the agents themselves, are widely used in peacetime. Thus the problem of the prohibition of chemical and bacteriological weapons is closely connected with the technical, industrial and commercial aspects of peaceful development and with the problems of the health and well-being of man. Furthermore, generally speaking, chemical and bacteriological agents are essentially poisons, and the effects of their use depend entirely on the intention of the user. Chemical and bacteriological agents used for curing man and raising his material and cultural standards can be converted into a weapon of mass and indiscriminate destruction in a matter of several days or even hours.

47. In the case of chemical and bacteriological weapons, verification has an intrinsic imperfection in the sense that on-site inspection is almost impossible in practice and is politically inexpedient. Notwithstanding this, my delegation, like others in this Committee, is of the opinion that the problem of verification is soluble, if not 100 per cent, yet with a great degree of reliability.

48. Taking into account the difficulties involved, the authors of the draft convention have laid special emphasis on the safeguard measures dependent on the good will of States. Bona fides is primarily the expression of the willingness and the capacity of the State concerned to live up to the responsibilities it has assumed under an international treaty. In this connexion special mention should be made of articles 4 and 5 of the draft convention of the socialist countries, which contain a number of important elements of control at the national level. Referring to article 5 of the draft, Mr. Roshchin very pertinently stated:

"The application of this article of the convention will be one of the ways of guaranteeing the implementation of this agreement and of achieving the aim of the complete prohibition and elimination of chemical and bacteriological agents of warfare." (CCD/PV.454, para.64)

49. We submit that the obligations under this article will inevitably call for the adoption of a number of safeguard and verification measures at the national level. These measures may include the establishment of a special government — and I stress government — agency for the purpose of ensuring compliance with the convention. A similar suggestion has been made by the representative of Yugoslavia, Mr. Vratusa (CCD/PV.456, para.35). I think we should go a little further. This question of establishing a national agency can be solved in the spirit of articles 17 and 35 of the Single Convention on Narcotic Drugs, 1961 [United Nations Treaty Series, Vol.520, pp.204 et seq.], the first of which says that the parties shall maintain a special administration for the purpose of applying the provisions of the Convention, while the latter declares that this should be done with due regard to the constitutional, legal and administrative systems of the parties.

50. That agency might be composed of the representatives of important bodies involved in research on and use of chemical and bacteriological agents and substances. To our mind the first to be included should be the representatives of important research insti-

tutes in the field in question, national medical and veterinary services, departments responsible for chemical industries, and so on. My delegation believes that the embryo of such an agency might already exist in one form or another in a number of countries.

51. Further measures might include the introduction of: (a) a national system of compulsory registration of the requirements and quantity of production of chemical and bacteriological agents which could be converted into weapons; (b) strict control of the import and export of such agents; (c) strict control of the manufacture, import and export of equipment and apparatus that could be used for the development, production and stockpiling of chemical and bacteriological weapons, etc.

52. My delegation submits that, bearing in mind the similarity of the subject-matter and of the problem of ensuring compliance, we could turn to articles 34 and 35 and other similar articles of the above-mentioned Single Convention to see whether we could borrow some useful ideas or get some hints from them for our purposes. At the same time, however, we would give a warning against making the verification question too complicated by introducing detailed provisions of no practical value. My delegation would like to emphasize once again that the effectiveness of any national control depends solely on the will of the parties concerned faithfully to honour the obligations they assume.

53. Referring to international safeguard measures, my delegation wonders whether the present provisions of the draft could be further elaborated by the inclusion of a provision concerning a review conference. In view of the well-known specific features of chemical and bacteriological agents the review conference could be held on a regular basis within a certain period of time — within each period of five years after the entry into force of the prospective convention, say. The clause might envisage that participants in the review conference, if they found it imperative owing to new developments of science and technology in the field concerned, could recommend to the States parties appropriate measures which the parties could apply individually in order to further secure the implementation of the convention.

54. I have expressed by means of thinking out loud some ideas concerning possible ways of strengthening further the safeguard and verification clauses of the draft convention. We would sincerely welcome any comments or remarks on them. We intend to continue our examination of these ideas to see if they can be developed into something more substantial and workable. For our part, we shall study very carefully the interesting suggestions made by the Swedish, Japanese, Yugoslav and other delegations concerning this verification problem.

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USSR/Roshchin

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CBW

58. The Soviet delegation was most interested to listen to Comrade Winiewicz's statement in which, on behalf of Poland, Hungary and Mongolia, he introduced a working paper (CCD/285) containing an important addition to the draft convention of the nine socialist countries. The delegation of the Soviet Union would like first of all to express its gratitude to the authors of the working document submitted to the Committee for the work they accomplished in preparing the aforesaid proposal.

59. The Soviet side regards the introduction of the text of a new article on the question of safeguards into the draft convention on the complete prohibition of chemical and bacteriological weapons, and of the draft resolution of the Security Council on that subject as an important, very useful and timely initiative aimed at facilitating a rapid and positive solution of an urgent problem of disarmament — the complete prohibition of chemical and bacteriological agents of warfare. The Soviet delegation declares its full agreement with the characteristic features of this proposal and with the appraisals of

its significance which were made this morning by the Deputy Foreign Minister of the Polish People's Republic, Mr. Winiewicz, and the head of the delegation of the Mongolian People's Republic, Mr. Dugersuren. Further to what has already been said, permit me to draw attention to certain points in connexion with this proposal which in our view are important.

60. During the discussions at the twenty-fourth session of the General Assembly and at the current session of the Committee on Disarmament on the problem of prohibiting chemical and bacteriological agents of warfare the delegations of many countries spoke in support of the need for a joint prohibition of these agents and expressed their approval of the approach shown in this regard in the draft convention of the nine socialist countries. At the same time the delegations expressed the wish that in this draft the provisions dealing with the safeguarding of compliance with the convention by the parties thereto should be strengthened. Such proposals were put forward, particularly in the Committee on Disarmament, by the delegations of Pakistan, Japan, Nigeria and a number of other countries. In fact, this was one of the most important considerations expressed in regard to the aforesaid draft convention. The addition to the text of the convention proposed by the three countries and the corresponding draft resolution of the Security Council represent a step towards meeting those wishes.

61. Incorporated in the text of the draft convention, the new article will organically supplement the other articles of the convention designed to safeguard the strict implementation of the convention by the signatory countries. Articles 4, 5 and 6 of the draft convention of the nine socialist countries and the new article proposed by the three countries, in conjunction with the proposed resolution of the Security Council, will ensure a reliable system of safeguards and an effective procedure for considering cases of possible violation of the provisions of the convention. Thus there will be established a realistic and workable system of safeguards, which is the only conceivable one for the normal operation of an agreement on the prohibition of development, production and stockpiling of chemical and bacteriological weapons, and on their destruction.

62. Indeed, the implementation of the provisions of article 5 under which each State party to the convention undertakes to take as soon as possible, in accordance with its constitutional procedures, the necessary legislative and administrative measures to put a stop to the prohibition of development, production and stockpiling of chemical and bacteriological weapons and to destroy such weapons, and of article 4, under which the parties to the convention shall be internationally responsible for compliance with this agreement by all undertakings and citizens of their respective countries, will ensure the fulfilment of the convention. It should be noted that while the provisions of these articles — particularly article 5 — are very categorical, they are at the same time sufficiently flexible to give each government the possibility of itself determining the nature of the safeguards in accordance with the usages and constitutional rules existing in its country. Entrusting the implementation of the provisions of the convention to the national governments within their own countries will create assurances of the implementation of the ban on the development, production and stockpiling of chemical and bacteriological weapons by any enterprises in those countries, as well as of the destruction or the switching of existing stocks of such weapons to peaceful needs. In the last analysis, as was most aptly noted by the representative of Bulgaria, Mr. Christov, on 7 April:

"After all, it is the governments which, pursuing an armaments policy, take all decisions concerning studies, experiments, development, etc. of chemical weapons. And it is at governmental level that the agreement will be concluded, with the necessary control measures." (CCD/PV.462, para.50)

63. Thus articles 4 and 5 of the draft convention, as well as article 6 under which

States parties to the convention undertake to consult one another and to co-operate in solving any problems which may arise in the application of the provisions of the convention, are logically supplemented by the provisions of the new article proposed today. This new article, as explained in detail by the Deputy Foreign Minister of the Polish People's Republic, provides for the right of each party to the convention to lodge a complaint with the Security Council if the party concerned has reason to believe that any other party to the agreement is contravening the convention, and to request the Council to consider the complaint. Each party to the convention accordingly undertakes to co-operate in carrying out any investigations which might be undertaken by the Security Council. Thus a thoroughly worked-out procedure is established for investigating possible cases of violation of the convention by the parties thereto. The very fact of the existence of this procedure, apart from its direct purpose, will, we believe, act as a deterrent and will guarantee strict compliance by all the signatory States with the terms of the agreement. On the whole — and we emphasize this once again — the new article on safeguards, together with the existing articles concerning assurances of the implementation of the convention, and the resolution of the Security Council strengthening those articles will make the convention a reliable and effective international agreement.

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Yugoslavia/Bozinovic

16.4.70

CBW

31. I would like now to pass to the question of control or verification in connexion with the complete prohibition of chemical and bacteriological (biological) weapons. I do with the desire to stimulate further the debate in the Committee as regards the complete prohibition of these weapons. This is not an attempt to formulate any proposal; what I would like to do now is to indicate in a preliminary way some elements which may be of interest when clarifying this problem. Before proceeding, I would particularly like to acknowledge the Swedish delegation's untiring efforts and concentration on very pertinent issues. We are greatly encouraged to find that our ideas seem to be very similar to those expressed by the representative of Sweden, Mrs. Myrdal, in her statement on 9 April (CCD/PV.463, para.3 et seq.). I should also like to say that my delegation appreciates very much the efforts of the delegations of Hungary, Mongolia and Poland in producing working paper CCD/285 of 14 April concerning the so-called complaints procedure, which was so ably presented at our last meeting by the Deputy Foreign Minister of the Polish People's Republic, Mr. Winiewicz (CCD/PV.464, para.4 et seq.) and the representative of Mongolia, Mr. Dugersuren (ibid., para.39 et seq.).

32. The first question to be raised is, I believe, whether control or verification of the complete prohibition of chemical and biological weapons is necessary. We know that the answer to this question requires more elaboration, space and time. At this stage we will limit ourselves to drawing attention to only two relevant aspects in favour of control. First, intensive activity is required to lessen the high degree of mistrust which exists in the present-day world. One way of contributing to this is probably by ever greater openness, and therefore by some kind of control. The second aspect is that under present international conditions the non-existence of a certain degree of control might either render impossible the achievement of such an agreement or make it unstable, or perhaps burden it with constant suspicions leading to other negative steps.

33. I should like now to deal briefly with the question of whether it would be possible to establish control over the complete prohibition of chemical and biological weapons under present-day conditions, at the same time making the prohibition both purposeful and widely acceptable politically. In the view of my delegation such control should primarily meet the following requirements:

1. It should fulfil its intent — in other words, be efficient to the point of not leaving open any possibilities for undetected violations of decisive importance.
2. It should not inflict commercial or other damage through the revealing of industrial, scientific and other secrets.
3. Its functioning should be relatively easy and simple.
4. Expenses for the control should be kept at the lowest possible level.

Those are, in our view, some of the basic requirements which should be observed when trying to establish a functional system of control over the complete prohibition of chemical and biological weapons.

34. In order to rationalize our efforts when studying the possibilities and conditions of control over chemical and biological weapons, we believe it to be very important to point out the fact that 100 per cent control over all institutions and installations which could be used for research, development, production and stockpiling is not possible. But at the same time we must also agree that 100 per cent control is not indispensable. The question then arises as to the degree of control, the kind of control and the points at which it would be necessary in order to achieve its end and at the same time be objectively acceptable to the majority of States.

35. There is yet another factor to be recognized a priori, namely, that there could be no rationally implemented control, as it appears, which would render impossible clandestine production and possession of such limited quantities of chemical and biological weapons as have no real military importance but which might be used for so-called terrorist purposes.

36. In the event of our adopting those assumptions, which in our view should not present any particular difficulty, it would seem useful to start considering the possibility of establishing a system of measures — and I should like to underline the word system — the over-all results of which could represent a sufficient guarantee for each country signatory to such a treaty. I should like to put forward some possible elements of such a system of control. They could be sorted out into four groups or categories which I shall first enumerate and then comment upon in a preliminary way. They are as follows: first, legal measures of renunciation and self-control adopted by each country; second, measures of indirect control to be carried out by an international organ, or by each country individually, primarily on the basis of official statements and analyses of scientific and other relevant public information; third, measures of international control; and fourth, action in case of suspicion of violation or of open violation.

37. The first group of measures would, in our view, consist of the following.

(a) States should enact a law putting under civilian administration or civilian control — the ministry of health, the ministry of industry or a similar body -- all institutions which are now engaged in research, development and production in the field of chemical and biological weapons. The Yugoslav delegation has already made that suggestion, in its statement of 10 March (CCD/PV.456, para.35). It might be asked whether such a measure would be possible and what its advantages were likely to be. We believe that such a measure is possible. Its introduction would in itself considerably lessen the possibilities for illegal production of chemical and biological weapons. The secret production of such weapons would normally be much easier in military installations, usually not accessible to the public. It should be clear that some of the present military institutions could be converted and could continue to function under civilian control in the field of scientific research for peaceful purposes or for passive protection, in conformity with the treaty regulating that matter.

(b) By another law States should prohibit research for weapons purposes and the development, production and stockpiling of agents for chemical and biological warfare; and they should also take a decision on the elimination of existing stocks

and the abolition of testing fields for those weapons as well as all the installations serving the production of those weapons. In the enactment of such a law or laws and exception could be made in conformity with the international treaty on the general prohibition of chemical and biological weapons and for the continuation of work on measures for passive protection, and perhaps also an exception for the kind and quantity of agents used for riot-control purposes. The implementation of those laws should, we believe, be left to each signatory State to secure.

(c) The third measure within the scope of this group of measures would be to cease the training of armies in the use of chemical and biological weapons. Consequently all rules and regulations pertaining to the ways of using and conditions for use of chemical and biological weapons should be deleted from all military manuals.

We see this group of measures — that is, measures of renunciation and self-control — as being the most important and as the main deterrent to possible violations of the treaty.

38. I would now pass on to the second group of measures: measures of indirect control to be carried out by an international organ or by each country individually, primarily on the basis of official statements and analyses of scientific and other relevant public information. It is known — and the latest report of the Stockholm International Peace Research Institute deals at length with this — that a series of data in each country pertaining to the expenses in certain fields of activity, to the utilization of certain raw materials, semi-finished products and final products, to the development of scientific and research work, and so on, could indicate whether or not there was any activity contrary to the prohibition of chemical and biological weapons being carried out. Obviously such a conclusion could be drawn only if the whole field of that activity were under civilian control, as stated in connexion with the first group of elements.

39. The third group of elements relates to measures of international control. It seems to us that several concrete measures might be introduced in order to increase the certainty of the non-existence of prohibited activities. At the same time all such measures should be in conformity with the basic requirements which I spoke of at the beginning of my statement, namely, the requirement not to be intrusive, and so on.

(a) One of the measures should be that once complete prohibition had been agreed upon governments should make public a list of all institutions, factories, proving grounds and the like which prior to the ban were engaged in research on, and development, production and testing of chemical and biological weapons, as well as a list of institutions which by their nature could be engaged in such activities.

(b) Governments should on their own initiative provide the possibility for appropriately regulated access to show, if need be, the non-existence of any forbidden activity. That would be the so-called verification by challenge which the representative of Sweden, Mrs. Myrdal, has suggested (CCD/PV.463, para.18).

(c) Within this group of elements there exist, one should point out, possibilities for control from the air by satellites and other devices for remote detection. We hold that they are not sufficiently known and that it would be useful if countries possessing such technology and experience could agree to put forward their views on the subject.

40. I would now pass on to the fourth group of measures: action in case of suspicion of violation or of open violation — the so-called complaints procedure. In the event of the existence of suspicion of violation or of open violation of the treaty prohibiting chemical and biological weapons, each State party to the treaty should inform other parties to the treaty. If suspicion only were in question, the States harbouring the suspicion could approach the control organ. Later, or at the same time, depending on the case and on the judgement of the countries concerned, they should address themselves to the Security Council. In order to facilitate preliminary investigation of a possible suspicion that a country was violating the treaty on the complete prohibition of

chemical and biological weapons, a separate international organ could be set up or the already existing organs or agencies could be utilized for those purposes. Should a country suspect that another party to the treaty was violating it, that State could then present the case, with the necessary data, to that organ. The control organ would then contact the government of the country under suspicion in order to make further preliminary investigations to see whether such suspicions were justified. Provision should be made for the control organ to communicate the results of its investigations to the Security Council. In relation to such a procedure there arises the question of how effectively the Security Council could deal with such complaints, bearing in mind the basic rule of the so-called veto. But that is a separate issue which I do not intend to deal with now.

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Morocco/Benhima

21.4.70

CBW

14. I said at the outset of this statement that faced with the difficulties in solving disarmament problems by an immediate procedure, which is impossible in present circumstances, we would always favour the search for partial solutions which would lead progressively to a final result. From that point of view the procedure envisaged in the United Kingdom draft would seem to be a practical one only if our efforts permitted us to avoid maintaining two equally rigid positions. That method, to which we have had recourse in the past almost in desperation, has nevertheless proved to be extremely useful because it permitted, in the face of the many obstacles standing in the way of general and complete disarmament, the conclusion of agreements on certain particular aspects of partial disarmament, and we owe to that approach some non-negligible successes, such as the partial test-ban Treaty (ENDC/100/Rev.1), the signature of the non-proliferation Treaty and the progress achieved so far on the treaty on the demilitarization of the sea-bed and the ocean floor. I do not believe, however, that the Committee has already exhausted all the possibilities and is now condemned to the choice between an agreement on biological weapons and no agreement at all. Furthermore — and even if we recognize the technical distinctions between the two categories of weapons, biological and chemical, and if we accept the difference of degree in their harmful effects, the tactical aspect of the one and the strategic aspect of the other, the facility of verification concerning the one and its complexity concerning the other — the certain conclusions of such an analysis do not seem to outweigh the advantages of a prohibition of the two categories of weapons simultaneously and the incorporation of that prohibition in a single text.

15. As for the draft of the socialist countries, it recalls that the existence of these weapons constitutes a real threat to relations between States, thus worsening the international situation, and it envisages, in view of that fact, a global prohibition of the two types of weapons. According to the authors of the draft those weapons are launched by almost identical means and can be used just as well for tactical as for strategic purposes; finally, it is difficult to establish a system of control capable of verifying whether it is the one type or the other which is being used. In fact, the essential problem, which raises the major difficulty on this question, concerns the definition of a system of verification and control and the ways and means of guaranteeing the faithful observance by the parties of all the provisions of the agreement in the field of chemical and bacteriological weapons, whatever form such an agreement may take.

16. We must, then, recognize that it is always on the problem of control that the disarmament debate has encountered its most serious obstacles. It is the control problem that has for ten years blocked or slowed down useful discussion of the problem of disarmament in all its aspects. We believe that genuine prohibition of chemical as well

as bacteriological weapons could indeed be achieved if we were able to define an adequate verification system. Many delegations have rightly emphasized that aspect of the difficulties of our debate and have recognized that the problem is essentially one of mutual confidence, which is indispensable in international relations — that is to say, the fundamental aspect of the disarmament question is well and truly and first and foremost a political problem.

17. Pertinent suggestions have been made by a number of delegations, aimed not only at making a constructive contribution to the search for adequate technical standards for assuring the most effective control but also at introducing into the debate the elements necessary for the re-establishment of general confidence. In that connexion the representative of Sweden, Mrs. Myrdal, has told us authoritatively that the main objective of any verification procedure must be to generate first of all mutual trust, and that two basic principles are necessary in order to create that trust and make it grow: open information and internationalization (CCD/PV.463, para.16, pp.12-15). The Deputy Secretary of State for Foreign Affairs of Yugoslavia, Mr. Vratusa, speaking on 10 March, made the proposal that all States should take legal measures aimed at placing under the control of the civil administration all institutions engaged in research on and development and production of chemical and bacteriological weapons (CCD/PV.456, para.35). That idea was fully developed by the Yugoslav delegation and seems now to have received the support of a number of delegations. Mr. Abe of Japan reiterated at our meeting of 10 March the suggestion made by the Japanese delegation last year for the convening of an international meeting of experts entrusted with the study of the technical aspects of verification concerning the prohibition of the production, development and stockpiling of chemical and biological weapons (CCD/PV.456, para.81).

18. In addition, specific proposals have been made that bodies such as the World Health Organization, the Food and Agriculture Organization and the International Disarmament Organization could possibly serve as the organs of control and verification. We should like to express our support to the authors of those formulas which, by complementing each other, might permit the definition of a system of verification capable of guaranteeing the observance of the agreement and of attracting the support of diametrically opposed parties. If that is indeed the main political preoccupation of the authors of the two drafts it seems to us that the concentration of efforts for the fullest exploration of the Yugoslav and Swedish suggestions would lead to the development of a satisfactory verification system. And if, as has been said in the Committee, there could be no infallible verification system, reciprocal confidence might give to the system of verification adopted the necessary guarantee of the faithful observance by all the parties of the agreement on prohibition. Such a system of verification might be framed on the following lines:

19. First, the production, development and stockpiling of chemical and bacteriological weapons should be jointly prohibited by the provisions of a main legal instrument envisaging also the destruction of those weapons. The first article of such instrument, and possibly also the second, would clearly envisage that prohibition.

20. Secondly, the procedures concerning verification and the guarantees ensuring respect for the commitments would be dealt with separately, according to whether they related to biological or chemical agents.

21. Thirdly, the procedures of verification concerning biological weapons would be determined definitively by the provisions of the main instrument. The total elimination of those weapons could be effective from the time of the entry into force of the instrument.

22. Fourthly, considering the present difficulties posed by the problem of verification as regards chemical weapons, we might perhaps include in the same instrument precise provisions for a further study aimed at the conclusion, within a period fixed in advance,

of an agreement on the verification procedures concerning chemical weapons.

23. This complementary agreement, whose legal form would be determined in the main instrument, would make effective the total and final implementation of provisions prohibiting these weapons.

24. Before concluding I should like to make certain comments on the different proposals concerning the complaints procedure. For obvious political reasons, and without any hesitation, we would be very eager to retain the formula of recourse to the Secretary-General of the United Nations. We see in such a formula the strengthening which we repeatedly demand of the authority of the Secretary-General. I am sure that a great many States Members of the international organization would be thankful for such a procedure. Unfortunately, given the limitations put by certain great Powers, directly or indirectly, on the authority of the Secretary-General, it is preferable to envisage a formula which would not have this dangerous character, which would lessen its value and prevent recourse to because of actions which would run counter to the authority of the Secretary-General, which must not be restricted in that field. The proposals made by the delegations of Poland, Hungary and Mongolia (CCD/285 and Corr.1) deserve careful attention, and here too we would be happy to see the Security Council assuming such a great responsibility in the field of disarmament. However, the machinery of the Security Council and the bargaining processes which precede its decisions lead us to try to surround that formula with complementary measures. Another aspect which, in spite of its other advantages, inspires certain reservations on our part is the right of veto, which might lead the Council to adopt a negative attitude in sometimes very disturbing cases. I should like, finally, to indicate the risk of possible exclusion by one or other group in the Council on grounds of nationality or personality of one or several of the experts who might be called upon by the Council for the enquiries envisaged. In fact, the two formulas proposed for this complaints procedure could more usefully complement each other and become, as in normal legal procedure, two hierarchical instances of recourse, thus ensuring greater effectiveness.

CCD/PV.467

pp.7-8

USSR/Roshchin

23.4.70

SB

10. With regard to the problem of control, it may be pointed out that the draft of 30 October 1969 proposed effective measures for verification of compliance with obligations under the treaty. These measures provided that such verification might be carried out by any State Party using its own means or with the assistance of any other State Party, and that States might refer to the Security Council any controversial matters that might arise during that process. That concept of control found support and sympathy both in this Committee and in the General Assembly. Many delegations, however, suggested that the verification procedure should be worked out more fully and put forward specific proposals to that end. The most detailed exposition of these proposals was contained in the working papers submitted by Canada, Brazil and Mexico.

11. These proposals were taken into account in drafting the amended text of article III we are submitting today. In particular, this article provides not only for observation of the activities of other States Parties on the sea-bed and the ocean floor, but also for an effective investigation procedure, including inspections which may be carried out by agreement between the Parties in cases where serious doubts arise concerning compliance by a given Party to the treaty with the obligations it has assumed. The treaty also specifies that all countries concerned may participate in mutual consultations and verification arrangements.

12. It is highly significant that, under the new version of article III, States Parties undertake, before proceeding to a verification, not only to notify States Parties in the

region where the investigation is to take place of their intentions, but also to invite their co-operation in clarifying the situation that has arisen. A separate provision of the article, paragraph 6, provides that a verification conducted pursuant to the treaty should be conducted with due regard for the sovereign or exclusive rights of a coastal State with respect to the natural resources of its continental shelf under international law.

13. The detailed verification procedure which has been worked out, coupled with the right accorded by article III to every Party to the treaty to refer to the Security Council the question of the activities of any State on the sea-bed giving rise to serious doubts which have not been removed by consultation and co-operation, constitute a clear, yet flexible system of control over fulfilment of the obligations assumed under the treaty. The article provides that the Security Council may, as a result of its consideration of cases where compliance with the obligations assumed under the treaty has been called into question, take action in accordance with the Charter of the United Nations.

14. In referring to verification of compliance with the treaty, we realize that cases may arise in practice in which one or other State Party to the treaty, for various political reasons connected with its relations with other countries and the international situation as a whole, will be unable to enter into the consultations provided for in article III of the draft treaty. We therefore think it should be made clear that the consultation among States Parties to the treaty, provided for in article III, paragraph 2, with a view to removing possible doubts regarding compliance with the treaty, is not of course a prerequisite for the exercise by States Parties of their right under paragraph 4 of the same article to refer the matter to the Security Council, in accordance with the provisions of the Charter of the United Nations, where there are serious grounds for doing so. Consequently, any State Party to the treaty may apply directly to the Security Council without resorting to consultations.

15. Thus, the proposals made in the statements and working papers of a number of States have been taken into account in preparing the present wording of article III. That is why the text of this article should be regarded as a synthesis of the views and positions of States on the problem of control over compliance with the obligations assumed under the treaty.

CCD/PV.467 pp.13-14

USA/Leonard

23.4.70

SB

33. The new article III contains all the suggestions of the working paper (A/C.1/992) submitted by the delegation of Canada on 27 November in New York, except for the references to international procedures and the good offices of the United Nations Secretary-General in paragraphs 3 and 5. There are three changes in the Canadian paper. The phrase "including the freedoms of the high seas", which appeared in the 7 October and 30 October drafts, has been reinserted at the end of paragraph 1. The United States considers the freedom to use the high seas to be an essential element in the effective verification of this treaty. In the last sentence of paragraph 3 the word "Party" has been deleted in the phrase "if the identity of the State Party" since if the State responsible for questionable activities on the sea-bed had not been identified there would be no way of knowing whether that State was a party to the sea-bed treaty. And in paragraph 4 the words "serious question", which appeared in the draft of 30 October, are reinserted in place of the words "reasonable doubt" since we believe this more accurately characterizes grounds for initiating Security Council consideration. The procedures provided for in article III do not, of course, prejudice or limit the right of any State to apply directly to the Security Council in accordance with the provisions

of the Charter of the United Nations.

34. As recommended by the delegations of India, Morocco, Pakistan and the United Arab Republic, the disclaimer now appears as a separate article. This new article IV is exactly that contained in the Argentine working paper.

CCD/PV.468 pp. 6-7

Canada/Ignatieff

28.4.70

SB

6. Naturally the Canadian delegation is most directly concerned with article III dealing with verification which, in its revised form, was described by the Soviet co-Chairman as "a synthesis of the views and positions of States on the problem of control" (ibid., para.15). We view with satisfaction the fact that the bulk of the working paper on verification which the Canadian delegation, with the support of several other delegations, tabled at the twenty-fourth session of the United Nations General Assembly (A/C.1/992) has now been accepted by the co-Chairmen.

7. Article III in this new draft satisfies our major requirements as identified in our checklist of procedures contained in our working paper CCD/270 of 8 October 1969, in that it

(1) provides not only for observation but also for procedures for inspection by mutual consent if reasonable doubts arise, including the participation of all parties that might be interested;

(2) reiterates the right of States parties to the treaty to ultimate recourse to the Security Council in accordance with the provisions of the Charter;

(3) gives States parties to the treaty the right to full or partial assistance as required in carrying out the verification procedures; and

(4) provides that all verification activities must pay due regard to the "sovereign or exclusive rights of a coastal State with respect to the natural resources of its continental shelf under international law".

8. While welcoming these developments in the thinking of the co-Chairmen as reflected in the latest revised draft, I have to note also an important omission in the present draft as regards verification. The present draft text makes no provision for recourse to appropriate international procedures or good offices — including those of the Secretary-General of the United Nations. Members of the Committee will recall that reference to those international procedures and good offices was made twice in our working paper A/C.1/992. The first reference, in paragraph 3, dealt with assistance in identifying the State responsible for activities giving rise to concern relating to compliance with the treaty. The second reference, found in paragraph 5, was concerned with access to assistance in carrying out verification procedures.

9. We would of course have preferred to see some reference in the draft treaty to appropriate international procedures to facilitate verification. Taking into account the need for the draft treaty to gain the widest possible adherence in order to make it an internationally effective arms control agreement, we would hope that the co-Chairmen might give further consideration to the desirability of making explicit in this treaty a right which is at any rate recognized as implicit and inherent in United Nations membership under the Charter and in international usage.

CCD/PV.468 p.8

USA/Leonard

28.4.70

CBW

14. While we find many reasons — such as their similar production methods and their effects — to prohibit toxins and biological warfare agents in the same agreement,

subject to the same control measures, we do not see the same logic in the suggestion that these agents should be prohibited together with those chemical agents which do not have any civilian application. The fact that many potential chemical warfare agents also have widespread civilian uses seriously complicates our task. But it is not the civilian uses of chemical agents or the absence of civilian uses that should be the determining factor in drafting measures of prohibition and control. Rather, it is the military uses, proven or potential, which must be the determining factor for our work.

15. Turning to another of Mrs. Myrdal's questions of 22 April — a point which she had alluded to earlier in her statement of 9 April (CCD/PV.463, para.11 et seq.) — I would like to comment briefly on the question of openness and reporting as a basis for verification. Open information and established procedures for reporting to an international organization could be important elements in a verification system for chemical warfare agents. However, openness and reporting and other measures for self-policing are not sufficient in themselves to form a verification system for a prohibition on production and stockpiling of chemical weapons. As we pointed out at last week's informal meeting, open information techniques, such as economic data monitoring, are not sufficient to give adequate assurance of non-production. Even with all the data available regarding United States production, research by the Arms Control and Disarmament Agency has indicated that economic data monitoring at best could serve as an adjunct to on-site technical inspection, some measure of which clearly appears to be required for effective verification of a chemical warfare ban.

CCD/PV.471 pp.7-10

Poland/Zybylski

18.6.70

SB

10. I should now like to turn to the question of verification. During our discussion of the draft submitted by the co-Chairmen on 7 October (CCD/269) and the revised draft presented to this Committee shortly before it adjourned on 30 October (CCD/269/Rev.1), as well as during the debate in the First Committee of the General Assembly, most of the criticism was directed towards the question of verification. It is understood that for every government acceding to a treaty dealing with disarmament or other preventive measures in this field, the question of verification becomes a very important issue. As has been indicated in our previous statements on this question, our primary consideration in this regard is that the system of verification should be compatible with the character and scope of the obligation to be assumed under the treaty and should also correspond to the geographical area of application of this agreement, while taking fully into account the norms of international law.

11. As an example of that policy we may say that we shared the view that there was no need for verification machinery in the Moscow Treaty on the partial test ban (ENDC/100/Rev.1) and in the outer-space Treaty (General Assembly resolution 2222 (XXI)). We were among those who advocated strict international control and efficient international machinery for the implementation of the non-proliferation Treaty; and it is also well known that Poland took the initiative in proposing (CCD/285 and Corr.1) a system of complaints to the Security Council as a realistic safeguard against possible breach of a complete ban on chemical and bacteriological means of warfare.

12. So far as the sea-bed treaty is concerned, the criticism of the provisions for verification contained in the previous drafts was concentrated on two principal issues: first the request to spell out more specifically the coastal States' exclusive right of exploration and exploitation of their respective continental shelves and to affirm the right of the coastal State to consent to or participate in any verification procedure which may take place on its continental shelf; and second, the request for the establishment of international machinery for verification as a result of the fact that the immense major-

ity of countries possessing sea coasts are not technologically or financially in a position to verify by themselves any violation or presumed violation of the treaty.

13. In the view of the Polish delegation the first of those points has been adequately taken care of in the new draft submitted to us on 23 April. This fact reflects the desire of all those who contributed to the final draft, whether directly or indirectly through consultation, to contribute as effectively as possible to the successful conclusion of an adequate and effective treaty eliminating nuclear weapons and other weapons of mass destruction from the sea-bed and ocean floor.

14. As far as the second point is concerned — the question of establishing international machinery for the verification of possible violations of the provisions of the treaty — my delegation continues to believe that the establishment of such machinery is premature, if not altogether unnecessary. The argument has been advanced that what is satisfactory for the main Powers may not necessarily be admissible for the remaining ones. Although at first sight there seems to be some logic in that way of thinking, one must take into account that the main military Powers are not the only Powers with advanced maritime technology and possessing the appropriate equipment for carrying out effective verification on the sea-bed should the need for it arise. Therefore a division on this question along such lines does not seem to be relevant.

15. On the other hand, the method of observation, assistance and co-operation between States parties to the treaty contains an important political factor as regards ways of solving differences between States. Mutual assistance and voluntary international co-operation promote better understanding among nations, thus strengthening the climate of confidence which we so badly need if we want to achieve substantive progress in the field of disarmament.

16. Approaching the problem of verification with a sense of realism, with a determined will to arrive at an agreement, we must resist the temptation to exercise excessive and complex control, which in the last analysis would be extremely costly. Should international machinery for control of this treaty be established, that machinery would have to be properly equipped in order to perform its functions independently. Who is going to secure the sophisticated equipment for that and who is going to pay for it? The funds at the disposal of the United Nations and other international organizations are already insufficient for carrying out the desired programme of assistance to the developing countries and other programmes of technical assistance. As we were reminded at the Conference of Non-Nuclear Weapon States by the Director-General of the International Atomic Energy Agency, Mr. Sigvard Eklund, the Agency which he directs has elaborated a number of important programmes of assistance to the developing countries in the field of the peaceful uses of atomic energy. The only thing that prevents their being carried out is the lack of funds. Can we in those circumstances suggest the spending of a considerable amount of money on a scheme which has no practical utility for the time being?

17. Having in mind that the draft treaty provides in article VI for a review conference five years after its entry into force —

"...in order to review the operation of this Treaty with a view to assuring that the purposes of the preamble and the provisions of the Treaty are being realized. Such review shall take into account any relevant technological developments" (CCD/269/Rev.2) —

it seems to us that the provisions for verification contained in the newly-drafted article III are fully adequate at the present stage of technological development.

18. Before leaving the area of verification I would like to say a few words about the statement made by the representative of Canada, Mr. Ignatieff, on 28 April. I shall quote the following passage from that statement:

"While welcoming these developments in the thinking of the co-Chairmen

as reflected in the latest revised draft, I have to note also an important omission in the present draft as regards verification. The present draft text makes no provision for recourse to appropriate international procedure or good offices — including those of the Secretary-General of the United Nations." (CCD/PV.468, para.8)

I have dealt at length with the question of international machinery for verification of this treaty. I need not go into further detail. As for the good offices of the Secretary-General, my delegation sees in this proposal a limitation that narrows this widely-recognized international procedure. Conflicts may arise in situations where the good offices of another political or moral authority may prove more desirable and more effective. The result of the good offices of Soviet Premier Kosygin at the meeting in Tashkent where a solution for the 1966 conflict between India and Pakistan was elaborated speaks in favour of not limiting the exercise of good offices to the United Nations Secretary-General and not incorporating it in the text of the treaty.

19. The arguments of the Canadian and other delegations dealing with those specific points of the verification system provided for in the treaty before us did not convince my delegation. I hope that the clarification I have tried to furnish to this Committee will help members to understand the position of my Government.

20. My delegation fully endorses the view expressed by our Soviet co-Chairman when he described the new draft of article III as "a synthesis of the views and positions of States on the problem of control..." (CCD/PV.467, para.15). We are happy to note that the main ideas formulated in the amendment submitted by the delegation of Argentina at the twenty-fourth session of the General Assembly (A/C.1/997) have in substance been incorporated in the new draft. We also welcome the new article VIII as an encouragement for the establishment of zones free from nuclear weapons.

CCD/PV.473 pp.16-18

Sweden/Edelstam

25.6.70

SB

49. Turning now to the other main principle, that of securing the sea-bed as the common heritage of mankind: we know, as I have said earlier, that this is an issue being dealt with elsewhere. Efforts are being made to reach agreement on the establishment of an international regime for the sea-bed, leading eventually to some form of international administrative machinery to ensure that the further exploration and exploitation of the natural resources of the sea-bed and the ocean floor will be carried out in a way which furthers the interests of all states and rests on the principle I have just mentioned.

50. From the outset of the negotiations in our Committee on the subject of the sea-bed treaty a link has been suggested between such possible future international machinery and the verification provisions of the treaty. Already in the spring of last year the non-aligned members of what was then the Eighteen-Nation Committee on Disarmament proposed that, when it became feasible, verification could be carried out not only by the individual parties but also through an appropriate international agency or arrangement. In the suggestions as to verification provisions which were put forward last year by the Canadian delegation and which were supported by a vast number of other delegations, the possibility was mentioned of verification being carried out with the full or partial assistance of any State party, this assistance being sought either directly or indirectly "through appropriate international procedures including the good offices of the Secretary-General of the United Nations."(A/C.1/992) As my delegation interpreted that provision it was a way of saying, although admittedly very indirectly, that if and when international machinery for the sea-bed was set up it might be possible for States desirous of so doing to make use of that machinery for their verification needs in

relation to the treaty we are now discussing.

51. In the draft text before us, which in other respects closely reflects the content of the Canadian proposals, these references to international good offices, including those of the Secretary-General, have been omitted. In view of the importance attached to the above-mentioned principle that the sea-bed represents a common heritage of mankind, and the link between that principle and the notion of an international regime for the sea-bed, we must regard the failure to make any mention at all in the new text of the possibility of international control as a serious weakness. I think there is ground for saying that many other States which have taken an active part in the discussions on preserving the sea-bed exclusively for peaceful purposes, and on obtaining general recognition of the common interests of mankind in that area, will share this opinion. I would appeal to the co-Chairmen to review this matter once again in order to see if some reference cannot be incorporated in the treaty text reflecting the idea of international verification as a possible future development.

52. I wish to cover one further point. The new wording of article I, in its second paragraph, extends the prohibitory rules of the treaty to apply also within the sea-bed zone, but exempts the coastal State as well as the sea-bed beneath its territorial waters from that extension. In this way ambiguity existing in earlier texts has been eliminated, an ambiguity in regard to cases where the territorial sea of the coastal State is less than twelve nautical miles.

53. An unclear situation remains, however, on one point. This refers to verification. We consider that a corresponding provision as to verification of the extended prohibition within the sea-bed zone is needed in order to avoid any conflict regarding the responsibility for fulfilment of the treaty obligations within the "gap" between territorial waters and the twelve-mile limit. The exemption of the coastal State from the prohibitions in article I should thus be matched by an exclusive right for the coastal State in relation to verification within that zone, irrespective of whether its territorial sea extends to twelve nautical miles or is less. The whole verification procedure consists of successive measures founded on the right of observation, laid down in the first paragraph. This right of observation applies, according to the paragraph, to activities beyond the sea-bed zone. Certainly observation is, however, also admitted under international law within the zone; but the verification procedure as to further measures within the zone is not regulated in the treaty. Such a deliberate "gap" in the provisions is, in our view, not desirable and could lead to unnecessary conflicts in a critical situation.

54. Clarification would be obtained if an additional paragraph were inserted in article III, preferably immediately after the present first paragraph, saying that the right arising under the first paragraph shall, with regard to activities of other parties within the sea-bed zone, accrue exclusively to the coastal State. Such a provision could, in our opinion, not be judged as an infringement of the principle of the freedoms of the high seas expressly referred to in the first paragraph of the same article. It could, on the other hand, have an impact on the security considerations of some coastal States.

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India/Husain

25.6.70

SB

60. Finally, and the most important of all, I stated that the principle of some kind of international verification on the sea-bed was essentially sound and should be reflected in the treaty. In this connexion the Indian delegation agreed with the basic requirements suggested by the delegation of Canada for an acceptable article on verification, and generally supported the Canadian proposals contained in document A/C.1/992 for a draft article III. In the view of the Indian delegation, certain other elements of a verification system, proposed in the Brazilian working paper (A/C.1/993/Rev.1) also deserved careful

and serious consideration.

61. It is a matter of satisfaction to the Indian delegation that two of its suggestions, which had the support of a very large number of delegations, have been accepted by the co-authors of the joint draft treaty in their new revised treaty text. Those suggestions relate to a straight-forward and clear-cut mention of the outer limit of the sea-bed zone envisaged in the treaty as being twelve miles, and the inclusion of the disclaimer clause in a separate and independent article in the treaty, so that it should become unequivocally clear that a treaty whose sole aim was to prevent the arms race on the sea-bed would not in any way prejudice or prejudge other questions relating to the law of the sea or their consideration later in an appropriate forum elsewhere.

62. The co-authors of the draft treaty have also accepted the suggestion made, among many others, by the delegation of India for the incorporation of the Canadian draft article III on verification, but have unfortunately omitted from that formulation the important references to recourse by parties to the treaty to "the good offices of the Secretary-General of the United Nations". The present draft text makes no provision for recourse to appropriate international procedures or good offices, including those of the Secretary-General of the United Nations.

63. Speaking at our plenary meeting on 28 April, the representative of Canada stated:

"Members of the Committee will recall that reference to those international procedures and good offices was made twice in our working paper A/C.1/992. The first reference, in paragraph 3, dealt with assistance in identifying the State responsible for activities giving rise to concern relating to compliance with the treaty. The second reference, found in paragraph 5, was concerned with access to assistance in carrying out verification procedures.

We would of course have preferred to see some reference in the draft treaty to appropriate international procedures to facilitate verification."
(CCD/PV.468, paras.8, 9)

With those views the representative of Italy agreed (*ibid.*, para.25). The representative of Canada has reiterated the Canadian position in his statement this morning.

64. The Canadian proposal regarding the possibility of recourse to the good offices of the United Nations Secretary-General has been echoed by an overwhelming majority of coastal States which, being developing States, do not possess the technology and the resources to carry out verification by their own means with a view to ensuring that no activity would be carried out or any installation placed on the sea-bed near their coast which might endanger their security. In order that a sea-bed treaty may be widely acceptable, it is essential that this genuine and serious concern of the vast majority of coastal States in regard to their security should be satisfied. In our opinion, so far as continental shelves are concerned, other countries should not use them for military purposes.

65. There is another aspect of the issue of verification, namely that due regard should be had in the implementation of verification procedures to the sovereign rights of coastal States on their continental shelves. That very important aspect of verification also governs the thinking of a majority of coastal States, and has inspired the working paper on the provisions of article III of a sea-bed treaty proposed by the delegation of Brazil. Any verification system that might be established under the proposed sea-bed treaty should have due regard to the sovereign rights of a coastal State on its continental shelf. The suggestions made by the delegation of Brazil for notification to and association of a coastal State in regard to verification procedures on its continental shelf merit serious consideration.

76. Thus in article III, paragraph 1, the right to verify through "observation" is established in a manner that some countries might conceivably prefer to interpret as including not only the observation which is carried out in the course of normal navigation but also such observation as implies research and exploration of areas where the coastal State has some jurisdiction — let us not discuss here the extent or nature of such jurisdiction — as, for instance, on the continental shelf. In such areas, even if we put aside considerations of a legal nature, the least that can be said is that the coastal State has legitimate economic and security interests. That fact, indeed, is acknowledged, though in unsatisfactory language, in the second paragraph of article III, but then in relation only to inspection in loco. It is our conviction that, whenever observation implies research and exploration in such areas of interest to the coastal State, the right of the coastal State to be advised of and to participate in such activities should not be ignored.

77. We should also bear in mind that the system of control that is now proposed to us relies mainly on the assumption of bona fides, especially from those who would exercise their rights based on paragraph 1 of article III. However, if we take into account the disparity of the technical means for purposes of verification at the disposal of the States parties, it is only fair that some other guarantee should be given to the coastal State besides the good intentions of the States exercising their unqualified rights of verification through observation. On this point the proposed system of control is even less understandable when we know that any violation of the treaty could be easily detected by normal means short of detailed research and exploration and not requiring any special activities of control. Therefore, when the need arises for detailed research and exploration of a specific area of interest to the coastal State, we fail to see why and how the participation of that State in such activities could have any detrimental implications for the effective implementation of the treaty.

78. The text before us makes no distinction in the matter of observation between areas of interest to the coastal State and areas where it has no particular and direct concern. On the contrary, it singles out in paragraph 1 of article III the freedoms of the high seas as applying without qualification to the whole geographical area of application of the treaty. In that sense the text takes a definite stand on a controversial issue which has no direct relation to the purposes of the treaty, and to a certain extent it does so in contradiction to article IV. If the intention of the co-sponsors is to avoid any innovation in the law of the seas, it seems that there is no need for including paragraph 1 of article III a reference to freedom of the high seas, or perhaps no need for paragraph 1 of article III at all. Since this treaty is not meant to add to or detract from general international law, one may consider dealing with references to general principles either in the preamble or in a general clause of the same nature as article IV and perhaps even coupled with it.

79. Allow me to turn now to paragraph 2 of article III, in which the interests of the coastal State in control operations are to some extent taken care of, although in a manner which does not clearly define the specific rights which we deem to be essential.

80. The expression "Parties in the region" seems to us to be too vague and liable to ambiguous interpretation in concrete cases. However, if that expression could serve the purpose of making the treaty more widely acceptable, one might live with it, since no one could deny that in that expression the coastal State is necessarily included in every instance. As the Brazilian delegation understands it, what is granted to the country in the region in paragraph 2 is, besides notification, not merely the possibility of participating but the right to participate in the act of control. The Brazilian delegation would appreciate confirmation of this understanding from the co-sponsors of the draft treaty,

since the words "may participate", which appear in paragraph 2 of article III, might appear to justify in a concrete case the refusal of a request by the coastal State or any other country in the region. The ambiguity of the expression could theoretically bring about a situation in which a request by some countries is granted and that of others in the same region is denied, or in which a coastal State is not allowed to participate in the inspection while other countries, whose interest may be more remote, are admitted to participation in the act of control.

81. Although I am confident that the co-sponsors will clarify the point I have just raised, it seems evident that the questions would be dealt with more adequately if the present vague provision were replaced by a clear-cut recognition that countries in the region "shall be notified of and entitled to participate in such consultation".

82. It could also be argued that countries in the region should not be put on the same level as other parties to the treaty as far as participation is concerned; because the significance of the act of control and the degree of interest are certainly not the same for the coastal State, the countries in the region and all other parties to the treaty.

83. However, even if the final part of paragraph 2 of article III were improved along the lines we have just suggested, we still think that this new and improved provision not only should apply to the acts of inspection but should also cover the acts of control under paragraph 1 whenever verification goes beyond observation in the course of normal navigation and includes research and exploration of areas of interest to the coastal State or to countries in the region.

84. At another point in article III, that is in paragraph 6, also we find a provision that seems to contradict the intention not to inject into this treaty the difficulties and controversies that beset the law of the seas. Indeed, the text as now drafted includes some qualification of the rights over the continental shelf, thus needlessly taking a stand on a controversy that goes beyond the scope of this treaty, in opposition to the practice and legislation of many countries. If we could envisage a provision without restrictive qualifications such as "the natural resources of", we might find neutral wording which, while acknowledging the rights of the coastal State, would not prejudice the nature and extent of those rights.

85. Finally, we think that the text could be improved if some omissions were remedied. One of these refers to the proper role of international organizations in the implementation of disarmament measures. In the case of this treaty we have always thought that, for instance, we could take advantage of the services of the Secretary-General of the United Nations for certain tasks that are quite compatible with his normal functions. In fact, in document A/C.1/993/Rev.1, submitted to the General Assembly of the United Nations, we suggested that when a State party seeks the assistance of another State party to carry out an act of verification — a matter regulated in paragraph 5 of article III — it should be entitled to do so either directly or indirectly, among other things through the good offices of the Secretary-General.

CCD/PV.473

pp.29-30

Yugoslavia/Bozinovic

25.6.70

SB

95. In connexion with verification and possible inspection the Yugoslav delegation suggested on 4 September 1969 (CCD/PV.434, para.98), and again at the twenty-fourth session of the General Assembly of the United Nations — and I quote from the latter statement:

"...parties to the treaty should undertake to inform the Secretary-General of the United Nations — with a view to notifying all signatories of the treaty — of any noticed event or activity which might be contrary to the strict observance of the treaty, as well as of the results of verification if

and when undertaken." (A/C.1/PV.1707, p.77)

That request is aimed at the further internationalization of the application of this multilateral treaty. But it solves at the same time another problem arising from the present article III, which states in paragraph 2:

"Parties in the region of the activities, and any other Party so requesting, shall be notified of, and may participate in, such consultation and co-operation."

96. The problem here is, how will the parties in the region know of such activities, and how will the parties to the treaty know that such activities are going on, and thus be able to express their desire to take part in consultation and co-operation? If the suggestion I have just mentioned is accepted, that might solve that difficulty, because every party to the treaty would be kept informed of such events and this would make the stipulation in the treaty applicable. Furthermore, the widely-supported request that applications for assistance in case of need to proceed to verification might be addressed also through the international community — the Secretary-General of the United Nations or otherwise — has not been accepted. We consider this to be a matter of principle, that it does concern the internationalization of the implementation of this treaty, and that the authors of the treaty should reconsider this question.

97. As regards international control and a possible international organ to carry out that function in connexion with this treaty, the view has been expressed that this is not necessary for the time being and that it would not be rational to set up an international organ in present conditions. In accepting that view, the Yugoslav delegation expressed the conviction that it was necessary to incorporate in the present treaty at least the idea of setting up such an international organ in the future. We still believe that that should be done.

CCD/PV.475

pp.7-12

Argentina/Ortiz de Rozas

3.7.70

SB

15. I should like to refer now to article III. Here too we notice substantial progress which brings us nearer to a more acceptable formula. In the same constructive spirit in which we have always approached these negotiations, we believe it necessary to consider this article most thoroughly: first because of the importance we attach to the verification system in the context of any measure relating to disarmament and arms control; and secondly because these are the only provisions which authorize and regulate in detail certain activities of particular importance to the contracting parties and which in substance might be described as the "operative" rules of the treaty.

16. Because of the interests at stake, it is sensible that the careful drafting of those provisions should be an essential aspect of our work. In our opinion some paragraphs still require changes which will reflect more reasonably the approach that has been recognized by the co-Chairmen — that is, to avoid raising irrelevant legal questions, and at the same time to adjust the draft to the amendments submitted by the delegation of Canada (A/C.1/992).

17. To begin with paragraph 1, we note that it introduces an incorrect idea in referring to the freedoms of the high seas. We do not believe that, to express the spirit of the draft, it is necessary to include a formula which is already clearly set out in the last preambular paragraph. We are convinced that verification activities should be carried out with the greatest efficiency, and we hope that in this respect the future treaty will be as clear as possible. But that is precisely what the present wording of the draft does not achieve. On the contrary, the mention of the freedoms of the high seas in the context of paragraph 1 leads to confusion and might elicit the same legal comments as those made on the earlier wording of articles I and II subsequently improved by the

Argentine amendments.

18. It would therefore be better to delete those words from the paragraph, as the representative of Brazil, Mr. Saraiva Guerreiro, very properly suggested in his statement on 25 June (CCD/PV.473, para.78). We should thus revert to the language of the working paper submitted by the delegation of Canada, which by omitting the reference to the freedoms of the high seas eliminates any possibility of legal controversy irrelevant to the purpose of the treaty.

19. I will now turn to paragraph 2 of article III. To allow States directly interested in inspection to participate in it, the draft refers to the "Parties in the region". This would avoid two kinds of difficulties.

20. First, a political solution is reached which side-steps any legal problem relating to the scope of certain rights that are much debated in the international community.

21. Secondly, various States are allowed to participate in cases where there are overlapping claims to certain sectors of the continental shelf. This wording is in fact a simple expedient to forestall situations which might otherwise cause some friction between the parties called upon to intervene in a verification procedure.

22. The solution, however, does not appear so appropriate when analysed from the point of view of the control system. Indeed, there is no doubt that the expression "Parties in the region", being polyvalent, introduces considerable uncertainty and leaves those States which are to effect the verification to decide exclusively how far the expression shall apply. True, this same paragraph tries to overcome this difficulty by opening the doors to "any other Party so requesting". But then another problem arises: how is a party which has not been informed of "such consultation and co-operation", and may feel itself arbitrarily excluded from the flexible notion of "parties in the region", to get notice of the proposed verification activities so that it can apply for participation in them? As the draft is worded, the only logical reply is that it will be able to learn about the situation through news media such as newspapers and the radio — which of course is not exactly a suitable means or one to be recommended for a treaty of this kind.

23. It may be worth recalling that the Antarctic Treaty [United Nations Treaty Series, Vol.402, pp.71 *et seq.*], to which my country is a party, provides a machinery of inspection on the spot which has been used periodically since the treaty's entry into force; and that there exists for this purpose a procedure for the exchange of information which, because of the small number of the States parties, has worked perfectly. To back up our argument, we wonder how many States represented here have become aware through the news media of the decision of a State party to the Treaty to carry out the inspections it authorizes.

24. It is therefore necessary to spell out the scope of the draft as clearly as possible. We believe that this could be done by mentioning expressly the coastal State party to the treaty, so that the sentence would read, "Parties in the region of the activities, in particular the coastal State", the rest of the paragraph remaining unchanged. That would be more precise and the respective legal positions would in no way be prejudged, since the addition would operate in the political context of the notion of "parties in the region".

25. I would say further that the co-Chairmen's draft itself gives the coastal State, in its articles I and II, a privileged status for elementary considerations of security. The same reasons which justify the reservation of the twelve-mile zone to the coastal State are valid in this case. We fail to see how it can be recognized that a State has certain special powers in that zone while at the same time another aspect of the draft disregards its legitimate interest in what could occur, for example, fifteen miles from its coast through the presence of nuclear weapons and other weapons of mass destruction. In short, to be consistent we should have to apply to these provisions of the treaty the

criteria laid down in articles I and II.

26. Paragraph 6 of article III provides for the manner in which verification activities should be conducted. For this purpose it appears to reflect the provisions of the Geneva Convention on the continental shelf. [United Nations Treaty Series, Vol.499, pp.311 et seq.] I think I ought to reiterate here the undesirability of adhering to juridical formulae which are by no means generally upheld — especially when they are employed partly for strengthening certain positions. The General Assembly's experience at its last session with the Geneva Convention on the Territorial Sea and the Contiguous Zone [United Nations Treaty Series, Vol.516, pp.205 et seq.] and its relation with this draft is very illuminating. Like that Convention, the instrument relating to the continental shelf has not obtained a representative number of ratifications; and it is therefore not difficult to foresee that the wording of this paragraph will be open to the same criticisms as were levelled in this connexion against the former articles I and II.

27. It must be borne in mind that quite recently the General Assembly, in its resolution 2574 A (XXIV), requested the Secretary-General —

"...to ascertain the views of Member States on the desirability of convening at an early date a conference on the law of the sea to review the régimes of the high seas, the continental shelf, the territorial sea and contiguous zone, fishing and conservation of the living resources of the high seas".

In other words, we are faced with a process which seeks to make substantial amendments to the law of the sea. The rules governing the continental shelf will undoubtedly be carefully analysed, and it is not difficult to predict that the Geneva Convention will be thoroughly scrutinized with the aim of correcting those rules which have prevented its general acceptance by the international community.

28. We believe that the most desirable and appropriate thing to do would be to adopt a provision which, while recognizing the special legal status of the coastal State — which is accepted to a greater or lesser degree by all countries — would not reflect the provisions of any instrument in particular. The question cannot be settled in the context of the draft before us; consequently the most logical procedure would be to leave those details for other, future agreements governing the status of the continental shelf.

29. That solution is also the most appropriate if we remember the sound position taken by the representative of the Soviet Union, Mr. Roshchin, who in presenting the draft said —

"This treaty is not intended to settle numerous issues of maritime law, to confirm or annul obligations assumed by States under other international agreements, or to anticipate any future solutions in this field." (CCD/PV.467, para.21).

We of course agree entirely with that appreciation, but we cannot fail to point out, and to regret, that according to our interpretation the draft takes a definite position on this question. We therefore propose in paragraph 6 the deletion of the words "the natural resources of".

30. The last sentence of paragraph 3 omits — quite properly, in our view — the word "Party" which appeared in the Canadian working paper. Obviously, if the identity of the State concerned is unknown, one can hardly know whether it is or is not a party to the treaty. The present wording could, however, lead to error concerning its scope. At first sight the procedure provided in the draft is apparently applicable to Powers that do not sign the future treaty. If the inquiries referred to in paragraph 3 did not enable the identity of the responsible State to be determined, and it were not known until later when the verification procedures were started, the inspection could not continue unless the State were a party, for two reasons which we consider equally important: first, the provisions of the treaty would be res inter alios acta for that State; and secondly,

exercise of the right conferred by the instrument could cause the very kind of international tension that the instrument is intended to avoid. We are sure that this was not the intention of the co-sponsors; but in fact the wording is not clear and we therefore see no need for retaining it in the draft, at least in its present form.

31. Lastly, paragraphs 3 and 5 of the Canadian working paper contained references to international procedures, including the good offices of the Secretary-General of the United Nations. No such references appear in the revised draft. This is a pity, since they were aimed at helping the large majority of States whose level of technological development would not enable them to undertake verification activities themselves. If the Canadian text raises difficulties for some delegations, there is nothing to preclude consideration of alternative formulas acceptable to all the States represented here.

32. The other novelty to be found in the draft text of the co-Chairmen is the new article VIII. We believe it was necessary to correct that omission, and we are gratified to note that the co-sponsors have accepted the proposal of the delegation of Mexico (A/C.1/995). That move was designed, most logically, to safeguard the obligations assumed in other instruments, for instance in the Treaty of Tlatelolco (ENDC/186), the scope of which is broader than that of the draft before us.

33. I have analysed article III in detail because I believe that the text still contains a number of defects which should be corrected. We should have wished other amendments to be made to the draft, but we shall refrain from mentioning them at this time because we share the view expressed by the representative of the United States, Mr. Leonard, that —

"...there is a need at some point to distinguish between what is essential to the basic objectives of the treaty and what may be desirable but not indispensable from the point of view of various States." (CCD/PV.467, para.40).

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Czechoslovakia/Vejvoda

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10. Most of the comments and proposals for alterations put forward by individual delegations have been directed to the question of control, that is, article III of the draft treaty. As we have already recalled, the provision of article III of the new draft of the treaty is based on suggestions from many delegations. For instance, there has been incorporated in it the provision, supported also by the Czechoslovak delegation, under which the request for securing the necessary co-operation concerning the assertion of the right of control by all States parties can be directed to the Security Council. In this connexion we welcome the explanation of the sponsors of the draft treaty to the effect that each party to the treaty will have the right to approach the Security Council directly, irrespective of whether or not it had availed itself of the possibility of consultation.

11. We should like now to touch upon some remarks made at our most recent meetings. How difficult it was for the sponsors of the draft treaty to take all suggestions into account can be seen from the following example. The representative of Brazil, Mr. Saraiva Guerreiro, said on 25 June:

"If the intention of the co-sponsors is to avoid any innovation in the law of the seas, it seems that there is no need for including in paragraph 1 of article III a reference to freedom of the high seas, or perhaps no need for paragraph 1 of article III at all." (CCD/PV.473, para.78).

But the co-Chairmen amended the original draft by the use of the words "including the freedoms of the high seas", on the basis of suggestions made by some delegations at the twenty-fourth session of the General Assembly. With that addition the text of the para-

graph under consideration is acceptable to most of the delegations in the Committee. The representative of Sweden, Mr. Edelstam, in his intervention on 25 June said, when referring to this — though in another context:

"Such a provision could, in our opinion, not be judged as an infringement of the principle of the freedoms of the high seas, expressly referred to in the first paragraph of the same article." (*Ibid.*, para.54)

From some other examples, too, we can see that some suggestions, though essentially well-intended, are not necessarily acceptable to other participants in the deliberations.

12. In connexion with article III, concerning control, as early as the spring of last year a number of delegations proposed that verification could be carried out also through an appropriate international agency. We have very high esteem for the work of the present international agencies and secretariats, but it seems to us that all too often we hear suggestions that this or that problem should be solved by the setting up of some international body. Is there any need for that in the present case? Does such a situation really prevail in the world that parties to a treaty must have a permanent arbiter to keep an eye on compliance with the treaty? Let us look at the problems that usually arise in connexion with the establishment of any international body.

13. First, there is the question of its composition. Countries parties to the treaty would like to have an absolute guarantee — and they are fully entitled to one — that they would be adequately represented in such a body. In addition, countries which are not Members of the United Nations could also adhere to the treaty. Those countries too would like to be represented in that body, and should of course be represented.

14. There are other questions which arise. Could it be expected that complaints regarding violations of the treaty would be coming in every day and that the agency or secretariat would therefore be busy all the time? In our opinion, there is no one here who would expect that the treaty under consideration would give rise to frequent problems. We know of cases where, very often, the so-called Parkinson's Law operates. If we do set up an organ, it will find work to do and will feel it necessary to justify its importance, and it will continue to grow. We are, of course, speaking only theoretically, but let us admit that this happens on the national as well as the international scale.

15. In the specific case of the treaty we are now discussing, the international secretariat would have to be technically well equipped in order to be able to carry out the controls. It would need to have technical personnel and equipment requiring continuous modernization, which is very expensive. Furthermore, all the nuclear Powers which, we hope, would become parties to the Treaty and would be obliged to provide all assistance for the purposes of control, possess all that is needed in that respect. Some may say that an international secretariat or agency would not need all this, and that, should it prove necessary, it might ask some nuclear Power to lend its instruments and technical personnel. But that could be done by the Security Council if the consultations between States should prove ineffective.

16. Closely connected with this is the problem of whether there should be mention in the treaty of some role for the Secretary-General. If he is to serve only as a "letter-box", as some delegations suggest, then reference to him in the text of the treaty is quite unnecessary; the role of the arbiter would then be performed by the Security Council, as the text of the treaty clearly specifies. Finally, an international body formally headed by the Secretary-General would, as we have already shown, be unnecessary. The duties of the Secretary-General are laid down in Article 97 of the Charter and he has his position in the Security Council under Articles 98 and 99 of the Charter. It is unnecessary, therefore, to make any special reference to the role of the Secretary-General in the treaty under consideration. It is also unnecessary to deal with the detailed determination of the role of the Security Council. The Security Council itself would certainly consider in good time all the duties that would be incumbent upon it as

a result of the entry into force of the treaty, as it did in the case of the Treaty on the Non-Proliferation of Nuclear Weapons (ENDC/226*).

17. There is another question which we should like to mention. The opinion has been expressed here that some future international machinery for the exploration and exploitation of the sea-bed could be linked to the verification of the treaty we are now considering. In our opinion, problems connected with the demilitarization of the sea-bed cannot be combined with problems concerning its peaceful exploitation. The nature of the former is quite different from that of the latter, and countries will proceed to the solution of these problems from completely different positions. As is known, disputes in military affairs, when the security of nations may be involved, are of quite a different sort from those in which essentially only economic matters are involved. Let us leave to everyone what is his.

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38. Another indispensable amendment would provide to the largest degree possible for concerted international, especially multilateral, action to strengthen the control and inspection machinery of the treaty. The co-Chairmen incorporated in their second version part of the Canadian proposals, but omitted the reference to the good offices of the Secretary-General of the United Nations. It appears to me desirable to provide for action by United Nations bodies as necessary, through some perhaps rather more general form of words. My delegation was not entirely satisfied with the reference to the "good offices" of the Secretary-General. The expression "good offices" has a technical connotation in international law: it is a means for the peaceful settlement of disputes. But what we are seeking is not always action by the Secretary-General for the settlement of an actual dispute, but rather that this officer shall assist a State which lacks the means to carry out by itself a costly and difficult inspection when a suspicious event has occurred on its coast. It would therefore be preferable to refer in more general terms to the action of United Nations bodies, which would include action both by the Secretary-General — whether good offices or not — and by the Security Council under article III of the treaty.

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47. The revision of the draft has been most substantial in article III. The efforts of the co-authors in this respect have been widely appreciated in this Committee. Two main points, however, still call for comment.

48. The first deals with verification procedures. At the outset, I think we can agree on the importance of maintaining a distinction between questions which are related to and, indeed, are discussed within the framework of the Committee on the Peaceful Uses of the Sea-Bed, and those which are related to verification of the sea-bed treaty. I have in mind in particular the question of establishing international machinery in connexion with international co-operation in the peaceful uses of the sea-bed. The United Arab Republic has made known its views on this question in the sea-bed Committee and in the First Committee of the General Assembly. In our view it would be advisable not to mix the concept of international machinery for peaceful purposes with verification aspects of the sea-bed treaty, at least at a stage when work on the disarmament aspect and work on the aspect of peaceful international co-operation concerning the sea-bed are still proceeding in parallel currents and have not merged into one single stream.

49. Thus, confining ourselves to the verification aspect of the present sea-bed treaty,

members of the Committee will recall that the United Arab Republic, together with other delegations, has striven to insert in the present draft a provision which allows for verification through an appropriate international agency or arrangement, when that becomes feasible. It has been our hope that such a broad formula, which leaves the door open for the future evolution of any appropriate international arrangement, would prove acceptable to the co-authors. However, we are all well aware that this has not been the case. If such a position still prevails, we continue, nevertheless, to hope that the idea will be favourably considered by the review conference.

50. Furthermore, there can be no doubt as to the right of States parties to the treaty to avail themselves of existing possibilities under the United Nations Charter to seek compliance with and strict application of the treaty.

51. I turn now to a particular point raised by my delegation in my statement on 23 October 1969, in which I commented on the first revised draft. In dealing with the stage of consultation and co-operation provided for in article III, I concluded by saying that:

"Although this provision may be of some benefit, nevertheless we believe that on practical grounds we should not overestimate the service it could render, especially in circumstances where relations between States do not allow for its normal implementation." (CCD/PV.445, para.132)

52. When introducing the second revised text of the draft treaty on 23 April, the Soviet representative — you yourself, Mr. Chairman — and the United States representative referred to that particular point, and I wish to quote what they stated on that occasion. Mr. Roshchin said:

"In referring to verification of compliance with the treaty, we realize that cases may arise in practice in which one or other State party to the treaty, for various political reasons connected with its relations with other countries and the international situation as a whole, will be unable to enter into the consultations provided for in article III of the draft treaty. We therefore think it should be made clear that the consultation among States parties to the treaty, provided for in article III, paragraph 2, with a view to removing possible doubts regarding compliance with the treaty, is not of course a prerequisite for the exercise by States parties of their right under paragraph 4 of the same article to refer the matter to the Security Council, in accordance with the provisions of the Charter of the United Nations, where there are serious grounds for doing so. Consequently, any State party to the treaty may apply directly to the Security Council without resorting to consultations". (CCD/PV.467, para.14)

On the same point Mr. Leonard stated:

"The procedures provided for in article III do not, of course, prejudice or limit the right of any State to apply directly to the Security Council in accordance with the provisions of the Charter of the United Nations." (Ibid., para.33)

Mr. Ignatieff referred on 28 April to those statements and said:

"We have also noted with interest and are in agreement with the statements made by the co-Chairmen concerning the right of direct access to the Security Council in the context of article III of the treaty." (CCD/PV.468, para.5)

And Ambassador Vejvoda, the representative of Czechoslovakia, has just expressed the same opinion in his lucid statement.

53. We appreciate the statements of the representatives of Canada and Czechoslovakia and are gratified to note the authoritative interpretation given by the co-authors of the draft treaty, who are at the same time permanent members of the Security Council. It is

in fact an expression of the established right of Member States under the United Nations Charter to bring to the attention of the Security Council any dispute or any situation which might lead to international friction. When recourse is had to the Security Council in such circumstances under the treaty, the Council would naturally act in such a manner as to help and facilitate the fulfilment of the successive stages of the verification process provided for in article III.

54. I wish, further, to point out that the sea-bed treaty cannot operate in isolation. It would operate within the context of the prevailing law. Consequently the operation of the treaty and the invoking of some of its provisions would be influenced by the whole system of international law.

55. On the other set of questions related to verification, namely those regarding the rights of coastal States beyond the maritime zone, I wish once again to commend the co-authors for the fact that the text is markedly improved in this respect. We believe, however, that a further attempt to insure the coastal State against any abuse of the verification procedures occurring in areas where it has sovereign or security rights, particularly on its continental shelf, would indeed induce many States to participate in the treaty.

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USSR/Roshchin

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68. Those who favour including a provision on international procedures in the article on verification say that such a provision is necessary as a starting-point for future international machinery to ensure the peaceful exploitation of the sea-bed and the ocean floor in the interests of all States. This idea was expressed, in particular, by Mr. Edelstam, the representative of Sweden, at the meeting on 25 June (CCD/PV.473, para.50). The provision he favoured would preclude, in the treaty prohibiting the emplacement of weapons of mass destruction on the sea-bed and the ocean floor, the solution of questions relating to a different problem being dealt with by the United Nations Committee to study the Peaceful Uses of the Sea-bed and the Ocean Floor. We believe that to attempt to use this treaty prohibiting the use of the sea-bed for military purposes for the solution of international problems not really directly related to the substance of this treaty would be to adopt an incorrect procedure conducive neither to the solution of such problems nor to the conclusion of the treaty. The limitation or prohibition of the military use of the sea-bed would, of course, have an extremely favourable effect on its peaceful use. The draft treaty was prepared precisely with the future possibilities of the peaceful use of the sea-bed and the ocean floor in mind and in the interests of such use. The first preambular paragraph of the draft recognizes the common interest of mankind in the progress of the exploration and use of the sea-bed and the ocean floor for peaceful purposes. We believe that this form of words properly reflects the link between these aspects. My delegation notes with satisfaction that Mr. Khallaf, the representative of the United Arab Republic, also referred in his statement today to the inadvisability of "mixing" — to use his term — questions relating to verification of the non-utilization of the sea-bed for military purposes with questions relating to the peaceful use of the sea-bed. Here we fully agree with the position taken on this important matter.

69. We should also like to point out that, as a number of representatives have stated, it is realized that all the suggested amendments cannot be incorporated in the document we are preparing nor can all viewpoints be reconciled, because some of them are mutually exclusive. We share the view of Mr. Ortiz de Rozas, the representative of Argentina, who said in this Committee on 3 July:

"...we should at least strive to produce an instrument representing an

acceptable balance between the interests of the States participating in our negotiations." (CCD/PV.475/Add.1, para.34)

70. It has also been proposed that we should again consider the possibility of including in the treaty an article on the need for further negotiations on a more comprehensive demilitarization of the sea-bed. The representative of Mexico, Czechoslovakia and the United Arab Republic have spoken on this question. The position of the Soviet Union on the matter is well known to the members of the Committee. Having regard to the need to take the views of its partners in the negotiations into account, it agreed to such a provision being included in the treaty as a preambular paragraph. We share the view of Mr. Zybylski, the representative of Poland, who, on 18 June, urged the Committee to keep the question of the demilitarization of the sea-bed and the ocean floor on its agenda (CCD/PV.471, para.9). It is our understanding that this proposal by the representative of Poland also has the support of the Swedish delegation, one of the delegations which initiated the proposal that an article on demilitarization should be included in the text of the treaty.

71. On 25 June, the delegation of Sweden further proposed the inclusion in the verification article of an additional provision, concerning the exclusive right of coastal States to verify the sea-bed zone between the limit of territorial waters, where the width of such waters is less than twelve nautical miles, and the twelve-mile limit (CCD/PV.473, para.53). While fully recognizing the Swedish delegation's efforts to achieve the best possible assurance of strict compliance with the provisions of the treaty, we should like to point out that the existing wording of the draft treaty quite plainly excludes the possibility of any verification activity by States other than coastal States within the twelve-mile coastal zone. Article III, paragraph 1, for instance, contains the following statement:

"In order to promote the objectives of and ensure compliance with the provisions of this Treaty, each State Party to the Treaty shall have the right to verify through observation the activities of other States Parties to the Treaty on the sea-bed and the ocean-floor and in the subsoil thereof beyond the zone referred to in Article I ..." (CCD/269/Rev.2)

"Beyond the zone referred to in Article I" means beyond the twelve-mile coastal zone. Similarly other verification measures, including inspection, can only be undertaken beyond such a zone, since, according to article III, paragraph 2, such measures can be carried out only:

"If after such observation reasonable doubts remain concerning the fulfilment of the obligations assumed under the Treaty ..." (ibid.)

It follows that where "such observation" has not been carried out, other verification measures cannot take place.

72. But would that mean that, where the width of territorial waters is less than twelve nautical miles, the belt between the outer limit of such waters and the twelve-mile limit remains uncontrolled? In our view, article I, paragraph 2, which reserves the right of coastal States to undertake activities prohibited by the treaty within the zone referred to, presupposes that it is those States, i.e. the coastal States, that are to exercise control functions there. That is how we understand the matter.

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Mexico/Castaneda

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40. I now turn to article III and to some of the suggestions submitted to this Conference for consideration. Only a few days ago the delegations of Brazil and Argentina made observations (CCD/PV.473, para.69 et seq. and CCD/PV.475/Add.1, para.8 et seq.) which we consider very interesting. Indeed, quite clearly the obligations and rights contained

in the various paragraphs of article III deserve careful analysis, and certain concepts need to be rounded out, to prevent the observation and verification procedure from failing to fulfil the purpose for which it was intended.

41. With reference to paragraph 1, as the representative of Brazil pointed out on 25 June (CCD/PV.473, para.80), the participation of the coastal State in the verification through observation is not laid down in precise terms. It is true that such verification may be limited to observation stricto sensu, but it is not difficult to imagine that it might go further if it is to be truly effective, and include a certain amount of investigation and exploration. In such cases, and for the purpose of not interfering unjustifiably with the legitimate maritime activities that the coastal State may engage in, it is right to provide it with a guarantee with respect to acts that go beyond simple observation, particularly in certain areas like the continental shelf of the coastal State, where the latter has obvious economic and security interests. Hence the need for the State concerned to be notified of the observations being conducted beyond twelve miles from its coasts in areas of specific interest to that State.

42. We agree with the delegation of Brazil in thinking that in paragraph 2 of article III the coastal State should be categorically given the right not only to be notified of the consultations and the measures of co-operation engaged in by the States situated in the region but also to participate in them. For that reason specific mention ought to be made of the competence of the State concerned to act on such matters not as a mere possibility but as an authentic right, so that the interests of that State may be sufficiently guaranteed in the inspection procedure conducted by other countries.

43. We believe too that the comments made by the representative of Argentina at the meeting of 3 July (CCD/PV.475/Add.1, paras.19-22) concerning "parties in the region" in which the activities are conducted are of special relevance to a clear definition of that expression which in its present wording is too ambiguous. If, as proposed by the representative of Argentina, the words "in particular the coastal State" (*ibid.*, para.24) were added, the rights of that State would be better protected. We therefore support his proposal.

44. On the other hand, we do not share the point of view of those delegations which would eliminate the notion of the freedom of the high seas from paragraph 1 of article III. Not only is that a concept which belongs to conventional law but it must be regarded as an integral part of international customary norms and hence of general international law. The freedom of the high seas is no longer a matter of controversy. What might be open to discussion is the precise delimitation of where the high seas begin — or, if you wish, where they end. However, in the context of this paragraph the aim is to prevent the observation conducted by States from infringing rights recognized by international law, including the freedom of the high seas. It is not a question of restricting or limiting the rights of the coastal State but rather of protecting and guaranteeing the freedoms enjoyed by all other States.

45. The representative of Argentina proposed an important amendment to paragraph 6 of article III (*ibid.*, para.29). Broadly speaking we support it but we have some doubts concerning the actual wording proposed. The situation is as follows. Paragraph 6 provides that the verification shall be conducted with due regard for "the sovereign or exclusive rights of a coastal State with respect to the natural resources of its continental shelf under international law". That terminology follows closely, though not exactly, the language of the 1958 Geneva Convention on the Continental Shelf [United Nations Treaty Series, vol.499, pp.331 et seq.]. This Convention provides that the coastal State exercises sovereign rights over the continental shelf as regards the exploration and exploitation of the shelf's natural resources. In other words, the sovereign rights attributed to — or, if you wish, recognized to — the coastal State are limited by the objective of exploiting natural resources. The Geneva Convention, then,

does not recognize to the coastal State general sovereignty over the continental shelf.

46. During the 1958 Geneva Conference attempts were made to obtain recognition of the full sovereignty of the coastal State over the shelf. Some may remember that it was Mexico which was the sponsor of a proposal to the Conference to recognize full sovereignty over the continental shelf to the coastal State. Our proposal was defeated, although it obtained a large number of votes. The thesis that was approved, whereby limited sovereign rights were recognized to the coastal State for the exploitation of resources, ultimately obtained an overwhelming majority of votes at the Conference. We abide by that decision and are fully convinced that at the present time the Geneva Convention reflects and expresses the existing rule of international law on the matter. For that reason we have no objection to make to the present paragraph 6 of article III.

47. However, we recognize, together with Mr. Ortiz de Rozas, that the Geneva Convention is in force only as between a small number of States — approximately one-third of the international community — and that the thesis it embodies is only one of the existing theses. But to agree that the Geneva Convention is not being universally applied is not the same thing as agreeing that any other of the theses being asserted at the present time is the authentic expression of existing international law. The number of States calling for full sovereignty over the continental shelf is probably very small.

48. In the circumstances we have no objection to changing the present wording of paragraph 6. But the result of that change should be that the treaty in no way pronounces on this controversial question, that is, that it does not side with any of the various positions. Such a solution would be more in line with article IV of the treaty, which divorces, so to speak, the general questions of the law of the sea from the present treaty.

49. The amendment submitted by Argentina would have not that result but the other. If we omit from the present text the words "the natural resources of" as proposed by Argentina, the text would read: "...with due regard for the sovereign or exclusive rights of a coastal State with respect to its continental shelf under international law". That would imply the validation of one of the existing theses — and certainly a thesis supported by a small minority — namely that the coastal State exercises general sovereign rights over the shelf, i.e. rights not limited to the exploitation of resources. And that would be tantamount to recognizing, through this treaty — or, I would venture to say, through the back door of this treaty — that the coastal State exercises sovereignty over the continental shelf.

50. For an amendment to paragraph 6 to be acceptable it would have to be more impartial. That which comes immediately to mind is the following: "with due regard for the rights of a coastal State with respect to its continental shelf under international law". In that formulation the type of rights exercised with respect to the continental shelf is not specified — whether they are general sovereign rights or sovereign rights limited to the exploitation of resources. I should think that the co-Chairmen would have no objection to a wording such as the one I have indicated, but for my part I wonder whether such general terms would in fact be of greater value and usefulness than the present text.

CCD/PV.478 pp.18-19

Sweden/Myrdal

14.7.70 CGD

49. The third item which I want to treat rather more specifically is also in the list: namely verification. In this connexion I refer to the Swedish working paper presenting the ways in which verification has been dealt with in various arms control and disarmament treaties and proposals (CCD/287). That list clearly indicates that in our work we have hitherto lacked a systematic guide for selecting appropriate verification methods.

50. As the Conference of the Committee on Disarmament has now gained considerable experience on verification issues, some general ideas on this important matter ought to be elaborated in our comprehensive disarmament programme. It must be recognized, first, that one hundred per cent certainty can never be obtained by any verification system; second, that probably only rarely is one method of control sufficient. In the concluding paragraph of our working paper we suggest that a combination of several methods should be employed, mutually fortifying each other. That would probably enhance the prospect of achieving the necessary assurance that a certain arms-control measure was being observed by all parties. These ideas might be further elaborated. We would further, for our part, particularly want to stress the value of the notions of open reporting, exchange of information and internationalization of procedures as features of any future verification systems. They all serve the purpose of making controls less obtrusive and less discriminatory; they also have positive side-effects, as they contribute to a climate of understanding and interdependence in the world community.

51. More specific is yet another method of verification of which we should like to remind the Committee. We have many times had occasion to suggest as an integral part of some, or perhaps most, control systems an approach labelled "verification by challenge", with its voluntary decision by a party under suspicion of having violated a certain engagement to free itself through the supply of relevant information, not excluding invitation to inspection by an outside party or organ. As an ultimate step in the verification procedure there would then follow the submission to a United Nations organ — for instance the Security Council — of the complaints, eventually coupled with a notice of withdrawal.

CCD/PV.480

pp.7-8

Sweden/Myrdal

21.7.70

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10. When we come to the provisions on verification, our suggestions differ in several respects from the proposals in the draft conventions before the Committee. I explained our basic considerations on this subject at some length in my statement on 9 April, to which I have already referred. Our ideas — which could be put into language better adapted for use in a treaty text — could be summarized as follows.

11. All parties would undertake the following series of obligations in order to prevent any diversion of chemical or biological agents from peaceful uses to agents of warfare and to ensure compliance with the prohibitions in the treaty.

12. The first one would be to facilitate and promote international exchange of information on pertinent peaceful, scientific, technical and other activities; and to co-operate to that end.

13. The second undertaking would consist of reporting to an agreed international organization — the World Health Organization has been mentioned as a possible recipient — and as determined by such organization, relevant data on these peaceful activities.

14. The third element would consist of an undertaking by each party not to provide, nor to permit any juridical or physical person within its territory or under its jurisdiction or control to provide, to any recipient chemical or biological agents that might be diverted from peaceful uses to agents of warfare, unless reported by the party to the responsible international organization. That provision would replace the contents of articles 4 and 5 of the nine-power draft convention; and it corresponds to the contents of article III, paragraph 2, of the Non-Proliferation Treaty (ENDC/226).

15. The fourth step in the verification process, as we perceive it, would consist of a provision whereby the parties would undertake to consult and co-operate with each other and with the responsible international organization in solving any problems which might arise in the application of the provisions of the convention, and to facilitate any

inquiry or other suitable method of clarification that might be deemed necessary on the basis of the exchange of information or collection of reports mentioned earlier. That stage would correspond to the by now well-known idea of "verification by challenge", enabling a party to free itself of any suspicion of cheating. This provision can be said to be an elaboration of the proviso in the nine-power draft, contained in its article 6.

16. Our text would, further, contain a clause in order to ensure that the safeguards I have just outlined would be implemented in a manner which would avoid hampering the scientific, technical or economic development of the parties, or international co-operation in peaceful activities. That idea is taken from the Non-Proliferation Treaty, which has a similar clause in its article III, paragraph 3.

17. The verification system could have as a final feature the right of any party which believed that actions of any other party constituted a breach of the obligations in the treaty to lodge a complaint with the Security Council. Such an idea is to be found in article III of the United Kingdom draft convention, and in the amendment to the nine-power draft convention put forward by the delegations of Hungary, Mongolia and Poland on 14 April of this year.

CCD/PV.480

pp.20-21

Nigeria/Hollist

21.7.70

SB

67. We are glad to note that in the revised draft treaty the co-Chairmen have incorporated substantially the Canadian proposals relating to verification and control. Unfortunately, however, they have omitted from the Canadian formulation as contained in document A/C.1/992 the provisions for recourse to international procedures or the good offices of the Secretary-General. We have listened attentively to the arguments that have been levelled against those provisions, but we are not convinced that their elimination is justified.

68. As Mr. Ignatieff rightly pointed out in his statement on 25 June, the establishment of appropriate international procedures does not necessarily imply "the establishment of some new, elaborate and expensive international machinery" (CCD/PV.473, para.5). Similarly, we do not consider that recourse to the good offices of the Secretary-General of the United Nations creates any power as such for him. In fact, the need for some international procedure has, I think, been underlined by the question asked by the representative of Yugoslavia, Mr. Bozinovic, in his statement on 25 June. Referring to the provision in article III that parties in the region of the suspected activities, and any other party so requesting, shall be notified of, and may participate in, the verification procedure, Mr. Bozinovic asked:

"...how will the parties [in the region] know that such activities are going on, and thus be able to express their desire to take part in consultation and co-operation?" (*ibid.*, para.96)

That is indeed a pertinent question, which I hope the co-Chairmen will answer.

69. In our opinion the draft treaty relies too heavily on the Security Council for control. The right of recourse to the Security Council is guaranteed by the United Nations Charter and is therefore available to every Member independently of the sea-bed treaty. In any case, while we do not undervalue the Security Council, we are sceptical about whether the Council as now constituted should be accorded a specific role in this treaty, as is done in article III, paragraph 4, and article VII. We feel that such a role for the Security Council is bound to be controversial in the long run; since the position of the Council under the United Nations Charter appears hardly compatible with the exercise of arbitration functions provided for under a substantive international treaty, like the one under discussion, to which countries may adhere independently of their membership of the United Nations.

76. Considerable improvements have been achieved also with regard to the verification issue as it now appears in article III. This is due mainly to the inclusion in the draft of the suggestions made in the Canadian working paper (A.C.1/992; CCD/270), to which the Ethiopian delegation gave full support. In this particular case, however, my delegation, like many others, cannot fail to note the omission from the article of an arrangement for international verification machinery within or outside the United Nations system.

77. My delegation has already stated (CCD/PV.444, para.131) that, for the vast majority of developing nations, verification by their own means would remain a theoretical possibility without any practical significance, as it is well known that those countries are far behind the technological standard that would be required for verification activities on the sea-bed. In our opinion, therefore, it is indispensable that those States should look to external assistance in verification. While we welcome, in this respect, the provision for bilateral assistance in verification as stipulated in paragraph 5 of article III, we fail to understand why any State should be deprived of any assistance in verification from a multilateral source when such an arrangement becomes feasible. We hope that the co-Chairmen will find appropriate wording which will not exclude future verification through an international arrangement, if and when such an arrangement becomes feasible.

18. I should now like to make a few brief remarks on the problem of verification and control. Our initial impression that manufacture of the kind of weapons we have in mind was so simple that even a garage or a kitchen could be used as a laboratory has to some extent been dispelled. On that point the World Health Organization's study has been especially enlightening. But the study itself suggests that in the last analysis the question is only one of nuance or, at the most, of degree. The undeniable fact is that production of those weapons is relatively simple and inexpensive. Essentially, therefore, it is practically impossible to conceive of a direct control system based on international means and instruments.

19. Recognition of that truth, however, in no way means acceptance of the opposite view that chemical weapons cannot therefore be prohibited by international agreement. Pushed to the extreme, that reasoning could be applied to all disarmament measures, since control over any of them would be far from easy. In actual fact, any industrial installation capable of contributing to the manufacture of any kind of weapons could be built and concealed inside a mountain — except possibly a gaseous diffusion plant. The fact that such installations cannot be controlled through visual observation is certainly not a reason for our resigning ourselves to never reaching an agreement on disarmament.

20. What happens is that, as the Swedish working paper (CCD/287) points out and the Swedish representative, Mrs. Myrdal, repeated on 14 July, a single verification method is rarely enough and a combination of mutually-reinforcing methods often has to be used. For chemical and biological weapons a system of verification by challenge would be particularly appropriate — that is, in the words of the Swedish representative —

"...voluntary decision by a party under suspicion of having violated a certain engagement to free itself through the supply of relevant information, not excluding invitation to inspection by an outside party or organ."
(CCD/PV.478, para.51)

21. We are convinced that a combination of national and international methods culminating in action by the Security Council would provide reasonable guarantees — not

absolute certainty, since that is impossible, but reasonable guarantees — that the treaty would not be violated. Control over a disarmament agreement is an equation containing three terms: first, reasonable measures of surveillance; second, tolerable risks; and third, a modicum of confidence in the other party's good faith and in its will to comply with its obligations. That confidence does not imply, of course, absolute faith that other States will be morally incapable of violating their undertakings — certainly very few countries, if any, inspire that kind of faith. Rather it implies the belief that the price of discovery — the loss of prestige and the other party's consequent exemption — would be too high politically, and that the well-understood interest of each State counsels compliance with its obligations.

22. In any event, surveillance of the prohibition of biological and of chemical weapons presents similar difficulties; yet the partisans of the partial solution consider that the methods of control proposed for this purpose are sufficient. For our part, since last year we have been emphasizing the merits of the United Kingdom draft's control and surveillance provisions; we merely believe that they are equally applicable to chemical weapons.

23. The United Kingdom draft has the virtue of outlining an original and practical scheme which, though not perfect, will perhaps in the long run prove the most acceptable and adequate. It provides machinery by which a party believing that means of warfare banned by the convention have been used against it may submit to the Secretary-General of the United Nations an accusation accompanied by all the available supporting evidence. The Secretary-General would be permanently empowered by the Security Council both to investigate complaints and to draw up reports on the results of his investigation. Suspicions that a State had violated other obligations, such as the prohibition of manufacture or stockpiling of biological weapons, could be referred directly to the Security Council.

24. The amendments proposed by Hungary, Mongolia and Poland to the draft treaty of the nine socialist States also strengthen the function of the Security Council. To our mind they too deserve careful consideration.

25. These systems of complaint and accusation have the specific feature that they allow and even require some active participation by the individual as such. So far he has been confined to a clearly passive function in matters which obviously affect and particularly concern him. However, we believe that he could participate actively in denunciation of a breach of the provisions of a disarmament treaty. Moreover, the type of weapon involved makes it necessary that he should. But what is truly important is that for the first time he would become an authentic agent of disarmament and hence a genuine champion of the supreme interests of the international community. He would also fulfil a direct function in the search for peace.

26. By way of example, the Deputy Foreign Minister of Poland drew our attention in his statement of 14 April to the need for a precise indication in school and university textbooks of biology and chemistry that the use of any chemical or biological formula for military purposes constitutes a violation of international law and will be prosecuted in accordance with the appropriate national legislation. Mr. Winiewicz reminded us that —

"Every individual must become aware of the danger represented by chemical and bacteriological (biological) weapons and must be prepared for some form of participation in the enforcement of the convention prohibiting the development and production of those inhuman means of warfare."
(CCD/PV.464, para.32)

We could not agree more fully with those observations.

27. Naturally, the minimal security guarantees that the parties will comply strictly with their obligations do not end there. The idea to which I referred a few moments ago is no more than the first step and the support on which verification must perforce rest.

28. Concerning other forms of national control, several constructive suggestions have been made and might be considered. In particular, the Yugoslav delegation has described in detail some measures designed to place under the civil administration, and particularly under the ministries of health, of all States the institutions dealing with research on chemical and bacteriological weapons and their development and manufacture (CCD/PV.456, para.35).

CCD/PV.481 p.16

Mongolia/Erdembileg

23.7.70

SB

46. In conclusion, I should like to say a few words on verification. We realize that supervision of the fulfilment of the obligations assumed by States parties under international agreements relating to partial measures of disarmament is an important component of these agreements. The adoption of any effective system of control in this field must have strict regard for the inalienable sovereign rights and security interests of States as established and recognized by international law. We believe that the supervision problem in the field of demilitarization of the sea-bed and the ocean floor is essentially a problem of ensuring the implementation by States of their undertaking not to emplace nuclear weapons and other weapons of mass destruction on the sea-bed and the ocean floor, which make up the greater part of our planet. I would point out that, thanks to the efforts of the co-authors, who carefully took into account in preparing their second revision the principal observations and proposals of a number of members of the Committee, article III of the draft treaty has been sufficiently developed and is now a more detailed and quite generally acceptable text on verification.

47. Concerning the proposal of some delegations to include in the article on supervision a provision concerning international procedures and the good offices of the United Nations Secretary-General, my delegation holds the view that in carrying out this verification there is no need to resort to the establishment of a special international control body. Effective supervision can be fully achieved both on the basis of the right of each State party to keep under observation the activities of other States parties to the treaty on the sea-bed and the ocean floor and in the subsoil thereof and on the basis of the right of States to undertake verification either by their own means or with the assistance of any other State party to the treaty, or by consultation and co-operation between the parties concerned.

CCD/PV.482 pp.8-9

UK/Lord Lothian

28.7.70

CTB

18. In the meantime, however, there is valuable work to be done in our Committee in considering the form that a possible treaty might take and in further discussion of the complex problems of verification. Here I might perhaps remind the Committee of the 1968 United Kingdom proposal (ENDC/232) for an agreement on a quota of nuclear tests on a descending scale which, although a secondary measure, could, we feel, be a very useful one. It could be of particular value in a situation in which agreement on a comprehensive test ban had been reached in principle but the super-Powers were not yet ready to accept the immediate suspension of all tests.

19. But the difficult problems of seismic detection and identification remain; and my country, among others, continues to work on these. In that context our Canadian colleagues recently put forward a helpful suggestion for exchange of seismic information (CCD/PV.473, paras.25 *et seq.*) which might assist countries to gain increased access to data from existing systems. I should like also to draw attention to the working paper (ENDC/258) circulated by the United Kingdom in this Committee last August, in which

the work of United Kingdom scientists was described. That paper reached the conclusion that the next step might be a detailed study of the ways and means of deploying an operational system based on new techniques in order to achieve the enhanced identification capability predicted in the report of the Stockholm International Peace Research Institute (SIPRI) Seismic Study Group in 1968.

20. There is increasing interest in the international exchange of seismic data as an aid to verification of a comprehensive test-ban treaty. Replies to the Secretary-General's enquiry called for in General Assembly resolution 2604 A (XXIV) (CCD/275) will enable a comprehensive review to be made of the present status of seismic monitoring of underground nuclear events. In the meantime, as a contribution to such a review the scientists of the United Kingdom Atomic Energy Authority have carried out a study aimed at determining what detection and identification capability could now be achieved in support of a comprehensive test-ban treaty, at what cost and on what time-scale. Their work is embodied in a working paper (CCD/296) which I have pleasure in laying before the Committee today. That study has not attempted, of course, to take into account the replies to the Secretary-General's enquiry. The paper is an attempt to demonstrate on an illustrative basis how the SIPRI prediction might be realized in practice. It is a practical study: every technique described in it is one which we know to be possible; and we have not drawn upon research and development techniques which are not yet proven. I believe that this paper, together with its glossary of seismic terms in the context of the test ban, will help to give purpose to our discussions on this almost intractable problem.

CCD/PV.482 pp.10-15

Czechoslovakia/Vejvoda

28.7.70

CBW

23. In our statement today we should like to deal with several aspects of verification of the prohibition of the development and production of chemical and bacteriological weapons. It seems to us, indeed, that in the consideration of that problem the question of verification is the focus of the attention of some delegations; not only because, like every disarmament measure, it is of primary significance, but also because some delegations are trying to use it as a smoke-screen for their political approach to the problem as a whole. We have witnessed some delegations attempting, on the question of verification: first, to prove that biological and bacteriological weapons should be dealt with as two separate problems; second, to prove that it is necessary, before the concrete provisions of any convention can be discussed, to examine thoroughly all the technical aspects of the problem — that is, to transfer the problem to a purely technical sphere with as much scientific and unpolitical argumentation as possible; and third, to use it as an argument for delaying the solution proposed at the twenty-fourth session of the General Assembly of the United Nations by the delegations of the socialist countries in their draft convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such weapons (A/7655), which provides simple but highly effective measures for the speedy achievement of a complete prohibition.

24. In examining the whole problem we have proceeded from the fact that verification of the prohibition of the development and production of chemical and bacteriological weapons might be applied in three different situations: first, as a general control over commercial production and research with the aim of ascertaining that these are not used for military purposes — that is, verification, so to speak, in a normal situation; secondly, in a case where a State suspected violation of the ban by some other State; and thirdly, in a case where a State lodged a complaint that chemical and bacteriological weapons had been used against it.

25. Let us now examine the possibilities of control in those three cases. First, there is the so-called ordinary, normal situation. Let us take bacteriological weapons first. It is known that bacteriological weapons intended to have a local effect do not require any special equipment for their production. It is possible to prepare ad hoc small quantities of a virulent culture in any microbiological laboratory, and to fill ampoules or other vessels with it. The quantity of the culture, or bacterial suspension, would amount to only a few litres. The selection of germs could be limited to bacteria, especially those causing intestinal infections — abdominal typhus, dysentery, cholera —, anthrax, plague and some others, which could be used for the contamination of places with greater concentrations of people and would do very great harm.

26. It can be said that in a normal situation the control by outside means of bacteriological weapons during their production and research is very difficult, as it is impossible to watch every small laboratory; yet such a laboratory would be able to develop and produce bacteriological weapons in sufficient quantities without any great difficulty. As we have already stated many times in this Committee, there is no need for mass production of bacteriological weapons; nevertheless a large number of institutions and factories could be producing them.

27. In this respect what is the situation with chemical weapons? If we want to form a clear picture of the enormous scale of production of chemical materials designed for peaceful purposes which at the same time could be quite easily used for military purposes, we can proceed from the United States working paper of 16 March, from which I should like to recall briefly the following:

"In the fifty years since the end of World War I, for example, gross production of the worldwide chemical industry has increased in value from an estimated \$5 billion to \$150 billion, approximately a thirty-fold increase. ...

The everyday production of commercial materials relevant to chemical warfare in the United States, as in other industrially developed countries, is quite substantial. For example, there are nineteen locations for phosgene production and eleven facilities for hydrogen cyanide production in the United States. These produce in total approximately 350,000 tons of phosgene and 200,000 tons of hydrogen cyanide per year for commercial purposes. ...

Elsewhere in the world, there are at least fifty plants involved in the production or formulation, or both, of commercial organophosphorus pesticides in a total of twelve countries, including countries of Western and Eastern Europe. The total world output of the entire organophosphorus pesticide industry is estimated to be in excess of 130,000 tons annually."

(CCD/283)

These, as the document of the United States says, can be used for the production of nerve agents in chemical warfare.

28. From those citations we can see what an enormous quantity of production for peaceful purposes would have to be covered by such a control. And what kind of control, then, should or could be used? Let us look at page 3 of the working paper of Sweden of 30 April (CCD/287). All methods of control so far known and used are listed there in a clear and lucid manner. The first method of verification is called "Collection of information". But what kind of procedure would be needed for the enormous quantity and volume of production of chemical materials? And what kind of procedure should be applied to cover the huge number of laboratories able to produce bacteriological weapons? And, at the same time, who would guarantee that all information collected in this way would really cover everything?

29. Something about this method has been disclosed in the report of the Stockholm

International Peace Research Institute. The reference is mainly to bacteriological weapons, but it is more or less evident that a similar verification procedure could also be applied in certain circumstances in the case of chemical weapons. The report indicates the incalculable amount of information which individual plants should provide in various questionnaires, including information such as personnel data which would require to be renewed continuously. What machinery would each plant need in order to answer such questionnaires? And what machinery would be needed for the evaluation on an international basis of all the information supplied? And where is the guarantee that all data acquired in this way would really be correct?

30. The United States working paper of 16 July (CCD/293) shows that in the field of chemical weapons so-called off-site inspections are impossible. The same, I am sure, applies to bacteriological weapons. Does that, however, mean that on-site inspection would be more successful? That method of verification raises the well-known problem on which a number of disarmament agreements have already failed. It is evident that regular international supervision of the kind of huge production described in the United States working paper (CCD/283) is not feasible. Similarly, as we have already said, it would be impossible to carry out regular on-site international supervision of every small laboratory. There is no way of securing that this method of verification would really cover everything and not become a mere formality or something else, something even worse.

31. Therefore it now remains to give an answer as to what kind of verification would be practicable in these cases. The Swedish working paper which I have already mentioned lists as the fifth possible method of verification "National self-supervision and inspection". The draft convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such weapons, submitted by the socialist countries, contains the obligation upon States parties to adopt the necessary legislative and administrative measures in order to comply with the prohibition. In this respect an interesting suggestion is contained in the SIPRI report, Problems of Chemical and Biological Weapons, Part IV, Verification, where on page 49 the possibility is dealt with of using for the purposes of verification, by national means, a national body having an international reputation, such as the Academy of Sciences. The SIPRI report refers to verification in a different context; but we are nevertheless of the opinion that this suggestion is also relevant to our case.

32. Then there is the question of verification in cases where a State might suspect some other State of not complying with the agreement. To cover such a case the delegations of Hungary, Mongolia and Poland have proposed a solution in their working paper of 14 April (CCD/285). As is known, that document suggests that a State which has reasonable doubts about the fulfilment by another State of its obligations may request the Security Council to investigate the case and take all necessary measures. However, before doing that a State party to the treaty having reasonable doubts regarding the fulfilment of its obligations by another State party might consult with other States parties to the treaty in order to clarify the situation. The representative of Japan rightly reminded the Committee of that possibility in his statement of 14 July (CCD/PV.478, para.69). Just as we believe that mutual trust among nations will grow, we believe that the importance of this kind of verification will grow.

33. Where consultations did not clarify the situation, or if some State party to the treaty refused to co-operate in consultations, then, of course, it would be the task of the Security Council to do whatever might be possible in order to clarify the situation and to save the treaty. It is indeed highly probable that a State party to such a treaty which continued to have reasonable doubts that another State was or other States were fulfilling their obligations would cease to be a party to the treaty, and the whole treaty might collapse. It would, however, be necessary for the Security Council to determine

its concrete procedure for such cases; and in our view there are a number of possibilities, including that contained in the working paper of Sweden concerning the various methods of verification under item 2, Inquiry, and other possibilities. However, it would be the duty of the Security Council to verify in practice the observance of the resolution which would certainly be adopted in that connexion and to decide upon the most effective ways of doing so.

34. Finally there is the question of control in the case where a State might suspect that bacteriological or chemical weapons had been used against it. Even if there are limited possibilities for the clandestine use of some kinds of chemical weapons -- for instance, in order to destroy crops, and so on -- chemical weapons could hardly be used otherwise than in a conflict. If someone had doubts as to whether an agent of warfare had really been used in a limited conflict, it would not be too difficult to submit the necessary evidence, such as medical inspection of affected persons, and so on.

35. As is known, the Geneva Protocol of 1925 (A/7575/Rev.1, annex VI) does not deal with the question of verification in the case of non-compliance. The best guarantees of compliance with the Protocol were in fact the reservations made by individual countries at the time of signing, from which it is clear that a violation of the Protocol by one party would result in retaliation with the same means by the other party.

36. In the case of a breach of the agreement we are now considering, the Security Council of the United Nations would have to deal with it either on the basis of a complaint or on the basis of its own functions emanating from Article 24 of the Charter. As far as the possibility of retaliation is concerned, we can well imagine that that would always be open, and by other means as well.

37. The situation is somewhat different in the case of biological weapons. They can be used not only in the case of a conflict but also in a clandestine way, in order to weaken the opponent's strength, to reduce the possibility of resistance, to stir up disturbances, and so on. In such cases the Security Council would choose the most suitable form of investigation in order to ascertain that biological weapons had really been used; and, according to the result of such investigation, it would decide upon proper counter-measures.

38. In conclusion we should like to return to the three points we spoke of at the beginning of this statement. We are of the opinion that if we consider the whole question of verification without any ulterior motives, and especially if we avoid any attempts to justify the lack of willingness to reach a necessary political solution by the difficulties connected with the question of verification, we can state that the questions connected with verification show, first, that chemical and bacteriological weapons are closely connected, among other things, by the common problems of their control; second, that a purely technical discussion may serve only as a smoke-screen to cover up the intention to delay a decision; and, third, that a convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such weapons, as proposed by the socialist countries at the twenty-fourth session of the United Nations General Assembly, could be concluded without delay, since sufficient means exist to ensure its observance.

CCD/PV.482

pp.16-17

Morocco/Khattabi

28.7.70

CBW

45. To guarantee that the provisions of that agreement are respected and observed, we consider that verification and control procedures might be dealt with separately for biological agents and toxins -- whose immediate elimination does not raise any major difficulty -- and for chemical agents, whose complexity makes it difficult at present, in the view of certain delegations, to have a control that would inspire confidence in the

observance of the provisions prohibiting these agents if designed for military use. Therefore, according to our working paper [CD/295], we must provide in the principal instrument means for the consideration of problems concerning procedures of verification for the prohibition of chemical weapons. That instrument should, of course, set a time-limit for the drafting of a supplementary document which would definitively lay down the verification procedures for this category of weapons. The convening of a meeting of experts, proposed last year by the Japanese delegation (ENDC/PV.428, para.47), would in our view certainly be useful particularly to consider the technical aspects of verification relating to chemical weapons.

46. The relation between the industrial and commercial production of chemical agents for civilian purposes and the manufacture of chemical weapons is an important aspect of the problem which should be examined and settled. That problem has already been the subject of a number of working papers and of relevant and constructive comments.

47. In that connexion I should like to emphasize that military reasons should not prevent us from dealing with these two categories of weapons together and enacting their prohibition in a single instrument. It should be made clear, consequently, that the technical aspects of the problem of verification of chemical agents are, in our view, the only ones that should be considered to justify the preparation of a text that could be appended, according to our working paper, to the basic instrument designed completely to eliminate chemical and biological weapons.

CCD/PV.486 pp.6-8

Yugoslavia/Bozinovic

11.8.70 CBW

7. I should like to introduce today the working paper, already distributed to delegations, on the elements for a system of control of the complete prohibition of chemical and biological weapons (CCD/302).

8. On 16 April my delegation elaborated to some extent, as members of the Committee will recall, on some of the aspects of the problem of control or verification of a possible complete prohibition of chemical and biological weapons (CCD/PV.456, para.36). Since the discussion so far has shown that a great number of States consider the question of control or verification as one of the basic issues instrumental to the solution of the problem of chemical and biological weapons, and since we are engaged in a matter of real disarmament, we have endeavoured, like many other delegations, to go somewhat deeper into the aspect of control, believing that by facilitating the solution of that part of the problem one would facilitate the solution of the entire problem.

9. My delegation has also thought it useful, therefore, to present its suggestions in the form of a working paper. Our pretensions in this connexion do not go beyond the intention to indicate tentatively the possibility of setting up a system of measures which, in their final results and by supplementing one another, would render possible the introduction of functional control over the complete prohibition of chemical and biological weapons, thus leading to the early conclusion of a treaty on the complete ban of the development, production and stockpiling of all chemical and biological agents for weapons purposes as well as chemical and biological weapons, and on their elimination from existing arsenals. In our working paper we have tried primarily to improve the systemization and also to present its elements more clearly, keeping in mind all the time the necessity to maintain maximum flexibility.

10. After those few introductory remarks I should like to offer additional clarification concerning some aspects of the working paper. In the first place, I should like to point out again that what we have in mind is a system of measures — that is, several measures which, supplementing one another, would yield satisfactory results in the end. It is our view that it would be inappropriate and purposeless to try to single out each of

those elements and attempt to prove its inadequacy for the purpose of control.

11. In the working paper we have indicated several requirements which control should meet in order to be purposeful and at the same time politically acceptable. We said at an earlier meeting that it was obvious that foolproof control was not possible and also that such control was not indispensable for our objective (CCD/PV.465, para.34). Consequently, effectiveness should be sought solely within the limits of our needs. Seeking absolutely effective control might render our task impossible. We have always treated control as a function of disarmament and not as a category in itself.

12. As to national legislative measures, we wish to stress particularly that in our view they represent the basic deterrent to the violation of obligations under a treaty on the complete ban of chemical and biological weapons. There is no justification for the suspicion that after the enactment of a series of legislative measures on the prohibition of chemical and biological weapons in a country there might arise a major illegal activity, such as production and stockpiling of chemical and biological weapons, elaboration of a military doctrine for their use, preparation of means for their delivery, training of troops to use them, and so forth. In other words, it would be very difficult to imagine that, alongside the laws which would completely prohibit chemical and biological weapons in a country, there could exist another set of parallel laws or regulations rendering possible whatever had been prohibited in this field by those laws.

13. The other group of measures are those of international control. It is quite evident that they are not intrusive, their aim being to help to provide sufficient assurance to all States that no activities prohibited by the treaty are being engaged in.

14. A further point is the question of an international organ. The task of that organ would be the collection of appropriate data on the basis of which one could have indications whether or not a country was violating a treaty on the complete ban of chemical and biological weapons. At the request of States such an organ could also carry out preliminary investigations in order to ascertain whether a violation of the treaty had occurred. In our working paper we have tried to present as few details as possible regarding that organ because we consider it essential at this stage to explore the idea and roughly describe the role and function of such an organ, in the belief that details could come later, gradually; once agreement on the necessity of such an organ had been reached, those details could be easily elaborated.

15. As to the detailed list of agents which should be subject to prohibition as well as the data to be published and reported by the parties to the treaty — matters which are not elaborated in our working paper — we should like to pay a tribute to the Swedish delegation for its contribution in submitting the tentative list of agents which it prepared for the informal meeting on chemical and biological weapons on 22 April and further elaborated at the informal meeting on 5 August, and to the Canadian delegation for its working paper (CCD/300) in which many questions are put forward that could contribute to a further elaboration of the issues of this nature. Also there is now a working paper submitted by the Japanese delegation (CCD/301) which contributes to the further clarification of this aspect by suggesting how the scope of agents to be reported on could be limited, and giving a concrete list.

16. We believe that all the contributions already made in connexion with this issue show that such lists could be drawn up; and we believe that they could later be changed or supplemented in accordance with the development of modern science and technology and that that could be done by the very international organ mentioned in our working paper.

17. Another point I should like to make in this explanation deals with the question of preliminary investigation. When we suggest making use of that procedure we are not in the least losing sight of the Security Council and its role. What we wish to achieve primarily by such a procedure is to avoid creating a political problem before exhausting other possibilities which, by their political nature, might be easier to achieve and at the

same time could meet the objective set. I should like here to draw attention to the detailed view concerning this issue and to the contribution made by the Swedish delegation in the statement of the representative of Sweden, Mrs. Myrdal, on 9 April (CCD/PV.463, paras.20-21), from which we have greatly profited.

CCD/PV.486 p.14

USSR/Roshchin

11.8.70 CGD

34. Delegations in their statements have given considerable attention to the problem of verification of the implementation of disarmament agreements. Verification of disarmament constitutes an important and at the same time complex problem, inasmuch as its purpose is to ensure strict compliance by all parties to the treaty with their disarmament obligations. Disarmament is feasible only as a supervised process. There must be adequate guarantees that no States are evading the carrying out of disarmament measures and have no possibility of stockpiling armaments secretly, thereby creating a threat to the security of other States.

35. This is precisely the basis for one of the provisions in the Joint Statement of Agreed Principles for Disarmament Negotiations which says:

"All disarmament measures should be implemented from beginning to end under such strict and effective international control as would provide firm assurance that all parties are honouring their obligations." (ENDC/2, ibid., para.6)

It is our conviction, however, that the implementation of control should not permit unjustified interference in the internal affairs of States. This control should ensure observation of the fulfilment of disarmament obligations but should not serve as a means for observation of, or spying upon, existing armaments and should not create a threat to the national security of States.

36. An international control system for the implementation of measures of general and complete disarmament was duly provided for in the 1962 Soviet draft treaty on the subject. In that draft the range of powers of the international control bodies is linked to the nature of the disarmament measures that are being carried out. For instance, for the reduction of the size of armed forces and of armaments on-site control is proposed at the places where the troops are disbanded and the armaments destroyed, and for the elimination of rockets capable of delivering nuclear weapons on-site control would be carried out at the places where they are destroyed.

37. In the implementation of partial disarmament measures, too, it is necessary to take into account considerations of national security and not allow the verification of specific partial measures to over-expand into unjustified interference in the internal affairs of other States or into a means of military or political espionage.

38. We believe that in all cases where there is a readiness on the part of States to reach agreement on measures of disarmament, concrete forms and methods of verifying the implementation of such measures should and can be found although -- and we stress this -- elaborating and agreeing on forms and methods of control is a complex, involved process in which numerous political and military-technical factors play a part.

CCD/PV.487 pp.7-10

Sweden/Myrdal

13.8.70 CTB

11. To continue the exposé of the Swedish draft treaty of last year I shall turn now to article II, which deals with the vital issue of safeguards. It follows the pattern of other Swedish proposals on verification by constituting a gradual process of measures of increasing severity leading, if necessary, to the ultimate step of bringing to the atten-

tion of the Security Council of the United Nations the fact that a party is deemed to have failed to co-operate to the fullest extent for the clarification of a particular event. That provision is contained in paragraph 4 of article II. The preceding paragraphs contain the less drastic and, so to speak, more normal steps in the verification process. Thus, paragraph 1 contains a solemn undertaking by all parties to co-operate in good faith to clarify events. Paragraph 2 comprises an undertaking by all parties to collaborate in an effective international exchange of seismological data in order to facilitate the detection, identification and location of underground events. Paragraph 3 sets out in more specific terms the formula by now well known as "verification by challenge". It gives a party that is wrongly suspected of having violated the treaty ways of freeing itself speedily from suspicion. That can be done by a series of steps, indicated in the paragraph, among which the suspected party can choose freely. According to paragraph 3(a) the step can take the form of explanations. Pursuant to paragraph 3(b) the party can make use of the possibility of inviting the suspecting party and/or any other State or some international organ to an inspection of the suspected violation, such inspection to be carried out in a manner which the inviting State should prescribe. Finally, under paragraph 3(c) the parties are entitled to make any additional proposals as to suitable methods of clarification. Under this rule a demand could be made, for instance, for an ad hoc inspection on the territory of a suspected party.

12. In a statement before the Committee on 23 May 1969 I tried to deal with the critics of our suggested verification clauses, because they had claimed that the machinery we had envisaged was too weak (ENDC/PV.415, paras.46-54). I then tried to show, I hope in convincing detail, that it is far from clear that machinery incorporating the unequivocal right to obligatory inspections would give any added assurance against cheating.

13. Since that debate took place here over a year ago there has been further progress on the technical aspects of verification. I should like, therefore, to dwell somewhat on that subject and in so doing to try to apply the method for the analysis of verification problems which was sketched by the representative of the United Kingdom, Mr. Porter, at the informal meeting of this Committee on 5 August. A decision on verification according to that method would fall in three stages. The first would be to decide which of the primarily technical proposals were practicable. The second would be to test the acceptability of these proposals on broad political, social and ideological grounds. In the third stage each government would take the political decision whether the risk inherent in the verification proposal which remained after the two preliminary considerations or assessments was more acceptable than being without any agreement.

14. Consequently, I shall deal first with the developments in the last year concerning the technical possibilities and then with developments, if any, in the political field. These technical aspects were treated more fully at the informal meeting yesterday but I should like to put on record here certain general lines.

15. As we see it, the resources for test-ban monitoring have much improved during the last year and further improvements are in sight. The seismographic resources of many countries and the data available from them are not compiled in the weighty document presented by the Secretariat (A/7967) in accordance with General Assembly resolution 2604 A (XXIV). Important resources are thus seen to be available for the implementation of the idea, which has been discussed for a long time, of an organized international data exchange to facilitate the detection and identification of underground events. I can only regret that not all countries have so far seen fit to supply the Secretary-General with information for this listing.

16. We have already learnt in the past that effective identification without on-site inspection has generally been considered possible for explosions in hard rock above some twenty to sixty kilotons. One of the most important tasks remaining has appeared to be the gathering of knowledge about the behaviour of various identification methods at

lower explosion strengths. In terms of seismic magnitudes one might say that there appeared to be a magnitude gap to close, a gap from magnitude 4.75 to 4.0. Reports now clearly indicate that the gap is being narrowed by various technical improvements. One such development under way, which may help to close the gap altogether, is the application of the identification method which uses body and surface wave magnitudes in regional measurements, and especially the promising teleseismic short-period spectral ratio measurements. There have also been encouraging reports from the Soviet Union and the United Kingdom on positive developments concerning the way to explain the big differences between the views in the West and in the East respectively on earthquake magnitudes and earthquake statistics. That problem is clearly very important for an assessment in unison of identification capabilities.

17. Another positive development has been the growing interest in and understanding of the large gains in identification capability that can be made when an event is analysed simultaneously with data from several seismographic stations and according to several identification criteria. In discussing the parallel use of several seismographic stations I am closing in on the topic of the very important documents before us about the efficiency of global networks. Canada has prepared a working paper (CCD/305) on existing seismological capabilities in detecting and identifying underground nuclear explosions, based on the information submitted by co-operating countries in accordance with General Assembly resolution 2604 A (XXIV). The United Kingdom working paper (CCD/296) deals with verification of a comprehensive test ban through a suggested, more comprehensive global network. The Canadian document has not only provided us with a timely and much needed inventory of the seismic data exchange capabilities at present available according to the original data contained in document A/7967, but, what is more, our Canadian colleagues have also reduced this large material and have given us an assessment of its detection and identification capabilities. In addition, they have provided us with an excellent discussion of the problems of identification and with a number of important proposals for further research in the area. We are certainly grateful to our Canadian colleagues for this work.

18. We have tried to interpret the Canadian analysis in the working paper which has just been circulated in the official languages and which was presented by my delegation at the informal meeting yesterday (CCD/306). We found that the present data exchange system will have its lower identification limit at about 100 kilotons. That limit appears to us to be rather high but it must be regarded as provisional, as it should become lower after further analysis of the material. That is also pointed out in the Canadian document.

19. The United Kingdom paper (CCD/296) in turn contains a study of what would be verified by a global network of twenty-six arrays -- nineteen of them remaining to be installed -- and a special data processing centre. This idea would, according to our analysis in our working paper, provide us with verification down to explosion yields near ten kilotons, just down to where evasion possibilities seem to emerge.

20. Comparing the United Kingdom twenty-six-array idea and the Canadian analysis of a potential data exchange system based on a certain number of existing stations, one finds that the difference between the calculated identification limits, ten and 100 kilotons respectively, is due mainly to the large number of long-period arrays in the United Kingdom system and to the fact that the Canadian data exchange system analysis takes into consideration one identification method only, whereas the United Kingdom analysis is based on a combination of such methods. By the way, for detection by short-period waves the difference is much smaller -- about ten kilotons for the data exchange system and about three kilotons for the twenty-six-array network.

21. The main thing is that both the Canadian and the United Kingdom assessments of capabilities confront us with a political challenge: What is acceptable to us all on poli-

tical, social and ideological grounds? Are the risks connected with these systems, which are certainly not 100-per-cent perfect, acceptable to us all? Furthermore, are we ready to accept the verification possibilities at present available by data exchange as a sufficient basis for banning underground nuclear tests? Or are the prospects better with the United Kingdom proposal?

22. Those questions should be raised immediately as a follow-up to the technical considerations, thus moving us into the second and third stages in the sequence of analysis which I mentioned as being necessary for proper decisions. I think we may guess that the political acceptability of the system as presented in the Canadian paper is higher than that of the twenty-six-array network as described by the United Kingdom; but we should also conclude that the risks involved would be higher. Even if our answers are not ready today, they should be based on assessments such as those presented to us in the two papers.

CCD/PV.488

pp.8-11

UK/Porter

18.8.70

CBW

14. I should like now to turn to the question of verification. What we call for the sake of brevity "verification" may take different forms, depending, for instance, on the weapon concerned and the general political circumstances in which a treaty is being concluded. But the aim, as we see it, is always the same -- that is, to build into any treaty realistic proposals which will be sufficient to deter would-be violators, and so help to reassure all parties that their confidence in the treaty is well-founded and that it is contributing to national and international security.

15. In the case of chemical weapons we are in full agreement with the view expressed in the working paper submitted by the representative of Italy on 6 August to the effect that --

"...the establishment of an effective system of controls is still the major problem among those that the Committee will have to solve with a view to achieving an agreement for the prohibition of chemical weapons."

(CCD/304, para.1)

In presenting to the Committee this morning our own working paper on certain technical and political aspects of chemical weapons verification (CCD/308) I should like to set out briefly our ideas for a three-stage process which might help us to assess and reduce the now great number of verification proposals which are before us relating to chemical and biological weapons. Some are verification proposals in the true sense of the word: some, like the complaints procedure in our own draft convention for the prohibition of biological methods of warfare, fall short of that. Some are primarily procedural, others primarily technical. I outlined this process at our informal meeting on chemical and biological warfare on 5 August, and was happy to see that the representative of Sweden, Mrs. Myrdal, applied it also to the comprehensive test ban in her statement on 13 August (CCD/PV.487).

16. The first step, as we see it, is to decide which of the primarily technical proposals before us are in fact practicable from the technical point of view in existing conditions. In that we are greatly helped by our experts, and I am disappointed that a number of delegations which could make a valuable contribution still seem to shy away from joining in our examination of those technical proposals, arguing that we are merely postponing a political decision. As we see it, the procedure we are following is the only sure way of preparing for such a political decision. We would, I feel, be deluding ourselves if we imagined that the technical problems would just vanish if a political decision was taken. If that were the case, our work in the Conference of the Committee on Disarmament would be much simpler. Those of us who are examining, with the help of our experts,

the proposals which have been put before us are not, as some delegations have suggested, adopting a negative attitude towards the problem. I think members of the Committee would agree that we would not bring an agreement any nearer, any more quickly, by continuing to discuss technical proposals for verification which our scientists had already told us were not technically feasible.

17. Equally, it would be no use elaborating a verification procedure which would satisfy one's own requirements if that procedure would be unacceptable to other parties. When we have eliminated by the first stage those proposals which are not practicable from the technical point of view, the second stage in the process I am suggesting would be to apply to those which remain the test of political, social and ideological acceptability. We should not overlook the caveat in the report of the Stockholm International Peace Research Institute (SIPRI) on chemical and biological warfare that:

"It is impossible to say flatly that verification is or is not feasible ... that depends on the political conditions you postulate: it is necessary to assess the balance between technical means and political obstacles." [The Problem of Chemical and Biological Warfare, Part IV, p.55]

18. We should not underestimate those obstacles, which are rooted in the political, social and ideological character of States. Just as the political decision to deploy certain verification methods depends to some extent on the technical practicability of those methods, so their acceptability depends in turn upon pre-existing conditions in the societies of potential parties to the agreement. Such conditions evolve slowly at the best of times and are not likely to be changed overnight as the result of a simple decision to conform to the verification procedures of an arms control agreement. One cannot, for instance, just write openness of information into a treaty if the preconditions for it do not exist. There is no point in writing on-site inspection or verification primarily by national means into a treaty unless the principal potential parties are ready to accept it. Some countries would make the Security Council a primary part of the verification procedure; others would be less inclined to do so. One cannot discount the hard political facts from which those attitudes stem and which must necessarily have their effect on our work here.

19. We come now to the third stage. We would start that final stage with measures which would be both practicable and available rather than, as at the beginning of the process, with a list of measures which would be ideally desirable or which would meet the particular requirements of only one State or group of States. At that third and final stage it would be for each government to decide whether it could take the risk involved in accepting whatever verification procedure might be constituted from some or all of those remaining measures. For no verification procedure is perfect, of course. And, as Mrs. Myrdal mentioned in her statement on 13 August, each government will have to take the political decision whether the risk inherent in the verification proposals remaining after the first two stages is more acceptable than being without any agreement.

20. The decision will be a political one but it will be a decision, not an act of faith, and it will therefore have to take into account a number of factors. There are political considerations, for instance, including the degree of confidence existing between the potential parties to the agreement. There are military considerations, including the nature of the weapon in question, and, most important perhaps, there are considerations of international security. Each government must ask itself whether such-and-such a treaty, incorporating such-and-such a verification procedure, will improve international security, stability and confidence: whether it will be a stabilizing or a de-stabilizing influence in world affairs.

21. In our working paper presented this morning we have set out to examine in the light of the first and, to some extent, the second phase of this three-stage approach one or

two primarily technical proposals made by others in the chemical weapons context. We have based ourselves on what seems technically and politically possible now or in the near future. The proposals we have examined involve the monitoring of chemical weapons production and field testing by the use of observation satellites and atmospheric or effluent sensors. We have tried to evaluate the likely technical feasibility of these methods and have then gone on to consider some of the political considerations which would affect, or even determine, their availability.

22. I hope that the Committee can agree to continue this process of evaluation. It would, I believe, provide us with a better idea of the verification methods available to us in support of an arms control agreement covering chemical weapons.

CCD/PV.490

pp.19-20

UAR/Khallaf

25.8.70

CBW

53. As regards the issue of verification, we have observed that during our discussions many delegations, if not a majority of them, have followed a general trend, the main points of which could be summarized as follows:

First, chemical weapons cannot be banned without adequate verification.

Secondly, agreement on a procedure for verification, despite apparent difficulties, is not beyond our reach.

Thirdly, verification need not be 100 per cent effective; that would be both unnecessary and impossible of achievement.

Fourthly, verification has both a technical and a political aspect; we must strive as hard as we possibly can to reconcile those two aspects.

Fifthly, the aspects of verification must be considered in such a way as to produce a solution properly adjusted to present-day facts and conditions.

Sixthly, procedures for verification should be both national and international; they should complement one another in the most suitable manner.

54. Having thus interpreted the general direction of the thoughts expressed in the Conference of the Committee on Disarmament on this subject, we feel that verification procedures would have to fulfil two purposes: a preventive one, to seek to ensure that a violation does not occur; and a curative one, to ascertain responsibilities in case a violation has been committed. Benefiting from the many suggestions and ideas put forward in that respect, we believe that these purposes could perhaps be best achieved by the following means.

55. First, each State party to the treaty should take, within a certain period from the entry into force of the treaty, all necessary legal, administrative and other practical measures conducive to ensuring respect for the prohibitions and the elimination of stockpiles of the banned weapons. Furthermore, each party should inform the Security Council, or perhaps an impartial international body agreed upon, of the steps it has taken in this regard, as well as on the completion of the elimination of its stockpiles. That procedure could be reported whenever deemed necessary.

56. Secondly, each State party is to undertake to forward relevant and basic information, to be agreed upon, to the above-mentioned impartial international body with a view to assisting the technical process of verification. Furthermore, existing competent international organs, such as the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and so forth could be called upon for assistance.

57. Thirdly, in case doubt arose concerning the activities of a State, that would have to be reported to the Security Council, which could undertake the necessary investigation measures. A complaint could of course be lodged directly with the Security Council.

58. Those procedures, like in fact the whole treaty, would notably increase in efficacy and credibility if, in accordance with the precedents established, there were to be

incorporated into the treaty a provision on withdrawal as well as a provision regarding a review conference. That would be a proper incentive for adherence to the treaty as well as a safeguard ensuring respect for all of the obligations undertaken.

59. I believe it is apparent that there are no new elements in those views; yet to us they seem to a suitable extent to reconcile flexibility with reliability, at least in a first stage -- that is, up to the time of the review conference, when we would have to look at their efficacy in the light of the experience gained.

60. We are of course fully prepared to pursue discussion on this matter. In this respect we would join the representative of India, Mr. Husain, in requesting the United States and the United Kingdom delegations, as he did at our plenary meeting on 20 August (CCD/PV.489, para.21), to concretize their views on how we could make headway on this important matter.

CCD/PV.490 pp.25-26 Romania/Datcu 25.8.70 SB

81. An analysis of article III of the draft, which deals with verification of the obligations assumed under the treaty by the States parties, reveals -- apart from certain acceptable elements of the verification system -- the persistence of omissions which have given rise to well-founded objections by the representatives of several States. The first objection to the present wording of article III relates to the omission of any reference to the possibility of recourse to appropriate international machinery to verify the obligations that have been assumed and to solve disputes concerning implementation of the treaty. The proposed methods of verification thus seem, as has frequently been emphasized during the negotiations, incomplete and disadvantageous to the smaller States.

82. For its part, the Romanian delegation has from the outset of the negotiations in 1969 expressed itself in favour of the establishment of international control machinery capable of giving all States a fair chance to participate in the verification of obligations (ENDC/PV.424, para.85). I would recall that at our meeting on 4 September 1969 the Romanian representative stated:

"We are convinced that the verification system thus conceived would be both effective and impartial by offering all parties the guarantee that the provisions of the treaty would be implemented in accordance with their spirit and their letter. At the same time it would create conditions for effective participation in the exercise of control by small and medium-sized countries which, in view of the technological gap separating them from the major Powers, do not have the necessary means to make sure by themselves that the agreement to which they are parties is respected."
(CCD/PV.434, para.16)

83. For those reasons we express our agreement with the proposal contained in the working paper I have mentioned (CCD/297), submitted by the delegations of Burma, Ethiopia, Mexico, Morocco, Nigeria, Pakistan, Sweden, the United Arab Republic and Yugoslavia on 30 July and advocating the incorporation in article III of the right of States parties to the treaty to undertake verification operations through, in particular, appropriate international procedures within the United Nations and in accordance with its Charter.

CCD/PV.491 p.20 Poland/Natorf 27.8.70 CBW

54. Many of the proposals are put forward with a view to developing the system of

guarantee envisaged in the draft convention of the nine socialist countries. Poland, as a co-author of that draft and of the working paper (CCD/285) concerning the procedure of complaints to the Security Council for the investigation of cases of violation of the convention, believes that many of those proposals are very thoughtful, deserve careful consideration and in some cases form the basis for further negotiations. We are happy to join those representatives who have favourably commented on those proposals. We would simply like to add that the Swedish formula of verification by challenge, when properly applied, can breed positive solutions. An example of this was the dismissal by an international commission of the accusation of genocide suggested remotely against the Government of Nigeria during the civil war in that country.

55. We understand that certain proposals contained in the working paper presented by the Yugoslav delegation (CCD/302) come close to previous Swedish suggestions; and we note with interest that they also develop in an interesting manner the notion of national means of verification envisaged in articles 4 and 5 of the draft convention proposed by the socialist countries.

56. As it has done in the case of all working documents submitted to this Conference, the Polish delegation has carefully studied the working paper (CCD/295) presented by the delegation of Morocco. We highly appreciate the thoughtfulness it demonstrates in advancing suggestions that lay the groundwork for a generally-acceptable solution. I would venture to suggest that negotiations be undertaken for the preparation of a juridical document along the lines suggested in the Moroccan paper. We are convinced that reasonable guarantees and safeguards for both biological and chemical weapons can also be elaborated that would, for example, enter into force for a precisely-prescribed period -- a test period -- during which experience could be gained that would show whether corrections were necessary for the future strengthening of safeguard measures. The possibility of establishing a not-too-distant date for a review conference specially devoted to the purpose of updating the guarantee system could also be taken into account.

57. We are of the opinion that that suggestion corresponds to the spirit and principles incorporated in the memorandum of the twelve non-aligned countries on the question of chemical and bacteriological (biological) methods of warfare (CCD/310) submitted to this Committee at our last plenary meeting. Needless to say, the Polish delegation welcomes that document and will give it the attention it deserves.

CCD/PV.491 pp.30-31

Bulgaria/Petrov

27.8.70 CBW

89. On the second problem, control over chemical weapons, our point of view is clear and I would not tax the Committee's patience by repeating the details. Our ideas concerning the system of control and guarantees have been set out in the draft convention (A/7655) and in the working paper (CCD/285). That system is based partly on national control measures and partly on the international procedures of recourse to the Security Council, bilateral and multilateral consultations between the parties. Those few delegations which do not share our confidence in this system recommend the creation of a special international control system based upon on-site technical inspections. However, the working out of such a system would be too difficult and ineffective to be practicable. The learned experts whom we have heard here and the many working papers, prepared with care and knowledge of the subject before us, dealing with the various aspects of control over chemical weapons confirm that conclusion. Moreover, many delegations have supported the principles of the system of controls and guarantees contained in the draft convention of the socialist countries.

90. I should like to say a few words on the aspects of national control, which in our

opinion is fundamental to any system of control and guarantees, in view of the characteristics of chemical and biological weapons and of their production and stockpiling. Article 5 of the draft convention accordingly provides that --

"Each State party to the Convention undertakes to take as soon as possible, in accordance with its constitutional procedures, the necessary legislative and administrative measures to prohibit the development, production and stockpiling of chemical and bacteriological (biological) weapons and to destroy such weapons."

In this connexion, may I draw the attention of the Committee to certain relevant passages in the statements made by the representatives of Sweden and Yugoslavia? In expressing the support of his delegation for the principle of national control as a basic principle, the representative of Yugoslavia said:

"As to national legislative measures, we wish to stress particularly that in our view they represent the basic deterrent... It would be very difficult to imagine that, alongside the laws which would completely prohibit chemical and biological weapons in a country, there could exist another set of parallel laws or regulations rendering possible whatever had been prohibited in this field by those laws." (CCD/PV.486, para.12)

In its working paper (CCD/302) the Yugoslav delegation went even further and made detailed suggestions concerning the adoption of specific laws.

91. The Swedish delegation also considers that one of the chief characteristics of a verification system is --

"...an undertaking by each party not to provide, nor to permit any juridical or physical person within its territory or under its jurisdiction or control to provide, to any recipient chemical or biological agents that might be diverted from peaceful uses to agents of warfare..." (CCD/PV.480, para.14).

92. The provisions of the draft convention of the socialist countries concerning international guarantee measures are contained in its articles 4 and 6 and in the working paper (CCD/285). Article 6 states the principle of consultation and co-operation between States parties in order to eliminate any misunderstandings which might arise. That principle has been welcomed by most delegations. As Mrs. Myrdal said at our meeting on 21 July:

"The fourth step in the verification process, as we perceive it, would consist of a provision whereby the parties would undertake to consult and co-operate with each other..." (CCD/PV.480, para.15)

Consultation and co-operation between the States parties is an international procedure also proposed by the Yugoslav delegation in its working paper.

93. It also seems to us that the right of each State party to have recourse to the Security Council in case of a violation of the treaty, to lodge a complaint and ask for an investigation strengthens the proposed system of guarantees and makes it more viable. We are glad that the majority of delegations share that view.

CCD/PV.492 pp.6-7

USSR/Roshchin

1.9.70

SB

8. Many delegations have urged that the verification system provided by the treaty should include the possibility of recourse to international procedures. The provision to that effect contained in the working paper of the nine non-aligned countries has been added to paragraph 5 of article III, which now states that verification may be undertaken by a State party to the treaty not only by its own means or with the full or partial assistance of any other State party, but also "through appropriate international

procedures within the framework of the United Nations and in accordance with its Charter". We believe that wording, the search for which required the joint efforts and goodwill of the members of the Committee, constitutes the optimum version, and we think it satisfies the maximum number of participants in the negotiations.

9. There are two modifications in paragraph 6 of article III. First, in response to the views expressed by the delegations of Brazil (CCD/PV.473, para.78) and Argentina (CCD/PV.475/Add.1, para.17), the reference to rights recognized under international law including the freedoms of the high seas has been moved from paragraph 1 to paragraph 6. Secondly, in consideration of the wishes of those two countries and of Mexico (CCD/PV.477, paras.45 *et seq.*), a change has been made in the wording of the part referring to the rights of coastal States with respect to their continental shelves. The difference between the new wording and the old is that it now has a more general character. In the consultations on this revision one of the promises of the participants was article IV of the draft, which provides that nothing in the treaty is to be interpreted as supporting or prejudicing the rights or claims of States with respect to continental shelves.

10. Further, in paragraph 2 of article III there are now some additional provisions which set out in greater detail the procedure for notifying States parties regarding doubts which might arise with respect to observance of the treaty and also the results of verification procedures. The basis for those revisions was the proposal (CCD/297) of the nine non-aligned States, to which I have already referred.

11. The same paragraph and paragraph 3 contain changes which strengthen the wording concerning the rights of States parties, including any coastal State, to participate in consultations and co-operation and also in further verification procedures. Those revisions, suggested by Brazil (ENDC/264) and Argentina (A/C.1/997), have received the support of other States.

12. Article III in its present form establishes a reliable and flexible system of verification of the observance by States parties of the obligations they have assumed. It provides for observation of the activities of other States parties to the sea-bed treaty; notification of States parties of doubts concerning the observance of the treaty; co-operation and consultation between the parties, including any coastal State; notification of the results of verification, and lastly such investigation procedures as inspection. In addition to the national forms of verification, the verification system includes international procedures and the possibility of recourse by States to the Security Council for the examination of doubts regarding observance of the treaty.

13. We have also taken into account the fact that in practice there might be cases where, because of various political circumstances connected with a party's relations with other States or associated with the general international situation, it could not enter into the consultations provided for in article III of the draft treaty. On that question we deem it necessary to repeat the statement we made on 23 April, in which we said that the provision of paragraph 2 of article III on the holding of consultations between States parties for the purpose of removing possible doubts concerning the observance of the treaty is not, of course, an indispensable prerequisite for the exercise by the parties of their right under paragraph 4 to refer the matter to the Security Council in accordance with the United Nations Charter where there are serious grounds for doing so. Consequently any State party to the treaty may apply directly to the Security Council even without resorting to consultations (CCD/PV.467, para.14).

24. A number of changes have been made in article III in order to take into account the

views of certain delegations concerning means of avoiding any implication of prejudice to differing positions on law-of-the-sea issues. In that connexion I want to emphasize again a point which has been fundamental to these negotiations: all the provisions of this treaty, including those relating to verification through observation as well as other verification activities, are designed to ensure that the treaty will accomplish its arms-limitation purposes; the provisions of the treaty are not intended to affect any of the various outstanding problems regarding the law of the sea. While the United States has taken this position from the very beginning and has felt that previous drafts were responsive to this need, we have continued to work with other delegations to find formulations which all could accept as being entirely neutral on these issues. We believe that article III as now drafted, together with the article IV disclaimer, which remains unchanged, should remove any remaining doubt as to the possibility that the treaty might affect law-of-the-sea issues.

25. Let me now note the principal changes which have been made in article III as it appeared in the 23 April draft (CCD/269/Rev.2). First, the final phrase of paragraph 1, which provides that verification shall not infringe rights recognized under international law, including the freedoms of the high seas, has been moved to paragraph 6. This change improves the logical organization of the article and, we trust, is responsive to some of the suggestions advanced in this Committee.

26. As suggested by the delegation of Yugoslavia (CCD/PV.473, paras.91 et seq.) and in working paper CCD/297, several changes were made in paragraph 2. First, a requirement has been added that where there are persistent doubts concerning the fulfilment of obligations assumed under the treaty, the State party having such doubts shall notify the other States parties. Moreover, after completion of such further verification procedures as may be agreed, the State party which initiated such procedures shall circulate an appropriate report to the other States parties. This addition is responsive to the concern of a number of delegations that a party might not have adequate knowledge of verification activities conducted in areas in which it felt it had an interest.

27. In connexion with that change, it appeared desirable to introduce in the second sentence of paragraph 2 the phrase "the Parties concerned". This term is intended to include the State party responsible for the activities, the State party having the doubts and any other States parties which, as parties in the region or at their own request, are involved.

28. At the suggestion of Argentina (CCD/PV.475/Add.1, paras.19 et seq.), Brazil (CCD/PV.473, paras.76 et seq.) and others, two additional points have been clarified. First, a new phrase "including any coastal State" has been added to make it clear beyond question that a coastal State party would be included in the group of countries which, as parties in the region, could participate in consultation and co-operation pursuant to paragraph 2. Second, the phrase "may participate" has been changed to "shall be entitled to participate", in order to make it clear that such participation is a right, and not a mere possibility, under this treaty. The phrase "including any coastal State" has also been added to paragraph 3.

29. Paragraph 5 has been modified by the addition of the phrase: "or through appropriate international procedures within the framework of the United Nations and in accordance with its Charter." That, of course, is the formulation proposed by nine non-aligned delegations in working paper CCD/297. We appreciate their helpful effort to find language which could be accepted by all delegations in order to meet the widely-felt need for a reference in paragraph 5 to international procedures.

30. Finally, paragraph 6 has been rephrased. In addition to the change I have mentioned, the reference to the rights of coastal States has been reformulated. The new draft refers to rights with respect to exploration and exploitation. That change was made in response to the desire expressed by many delegations for a more general formulation

which could not possibly be read as prejudicing or reinforcing any particular view of the scope of rights with respect to the continental shelf. The deletion of the words "sovereign or exclusive" from the 23 April draft contributes to the generality of the language, but it does not in any way call into question the existence of sovereign or exclusive rights of coastal States recognized under international law, including the 1958 Geneva Convention on the Continental Shelf. [United Nations Treaty Series, Vol.499, pp.311 et seq.]

31. In concluding my discussion of article III I should like to recall that a number of the ideas embodied in the amendments I have described were suggested by the delegation of Brazil last year in its working paper ENDC/264.

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USSR/Roshchin

23.2.71 CBW,CTB

23. The task of the Committee on Disarmament is to ensure the fullest possible solution of the problem of banning chemical and bacteriological weapons. The revised draft convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and the destruction of such weapons, submitted by the socialist countries, provides the necessary basis for the solution of that problem. It appears necessary for the Committee on Disarmament to consider that draft convention with due attention. Since, when submitting the revised draft convention to the twenty-fifth session of the United Nations General Assembly, the delegations of Poland, Hungary and the Mongolian People's Republic dwelt on it at length, we intend in our statement today to deal with only some aspects of the draft convention of the nine socialist countries.

24. In the General Assembly many delegations pointed out that an important part of the problem of the prohibition of chemical and bacteriological weapons was that of ensuring the fulfilment of the obligation assumed under an agreement prohibiting such weapons. It was also pointed out that the ensuring of the fulfilment of the obligations pertaining to the prohibition of these weapons should be based on a combination of national and international means and procedures of verification which would furnish confidence that the obligations laid down by the convention were being fulfilled by all the parties thereto. The draft convention of the nine socialist countries provides for precisely such a combination of national and international means and procedures of verification. The convention contains a provision that each State party to the convention shall be internationally responsible for compliance with the provisions of the convention by the nationals and enterprises of its country. In accordance with this provision the government of each State party to the convention would ensure that the enterprises and nationals of that country did not engage in the development and production of chemical and bacteriological (biological) weapons and that such weapons were not being stockpiled in its military arsenals.

25. The draft convention of the socialist countries also provides for the use of international verification procedures. The convention contains a provision concerning the obligation of States parties to the convention to consult one another and to co-operate in the solution of any problems that may arise in connexion with the implementation of the provisions of the convention. Such consultations would enable States to remove doubts as to the fulfilment of the obligations under the convention. In the event of a well-founded suspicion of the violation of the obligations laid down by the convention, a State party to the convention may lodge a complaint with the Security Council, which will consider that complaint. The Security Council will then inform the States parties to the convention of the results of its investigation.

26. The revised draft convention of the nine socialist countries has been prepared with

due regard for the considerations and suggestions put forward by members of the Committee on Disarmament during its summer session. This draft contains the provisions necessary for achieving a practical solution of the problem of the complete prohibition of chemical and bacteriological weapons. What is necessary is the desire and the willingness of States to exclude these types of weapons from military arsenals for ever.

30. Among measures designed to curb the arms race which are awaiting agreement and implementation, the problem of prohibiting all types of nuclear tests, including underground tests, occupies an important position. This problem has been discussed for a long time now by various international bodies and still awaits a practical solution. Like many other States, the Soviet Union supported General Assembly resolution 2663 B (XXV), which calls upon "all nuclear-weapon States to suspend nuclear weapon tests in all environments", and requests the Conference of the Committee on Disarmament "to continue, as a matter of urgency, its deliberations on a treaty banning underground nuclear weapon tests..." (CCD/318). The Soviet Union is entirely in favour of a positive solution of this major and urgent problem.

31. The Soviet side believes that control of the observance by States of their obligations regarding the prohibition of underground tests should be carried out on the basis of the use of national means of detection. The demand by certain Western Powers for on-site inspection for the purpose of such control stops, as a matter of fact, the achievement of agreement on this problem. The Soviet side reaffirms its readiness to seek the earliest possible achievement of an agreement to prohibit all types of nuclear weapon tests. At the same time, we consider it inexpedient to substitute all kinds of investigations and studies in the field of seismology for the solution of this problem. If agreement is reached on the cessation of tests on the basis of the use of national means of detection, the Soviet Union will be ready to participate in the widest possible international exchange of seismological data. Indeed, it is already participating actively in such an exchange. In order to achieve agreement on the prohibition of all nuclear tests, it is necessary first of all to take the appropriate political decision.

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Canada/Ignatieff

25.2.71

CTB

35. Of course, the ultimate results of our efforts to achieve an agreement on underground testing are closely linked to the fruitfulness of the Strategic Arms Limitation Talks, as Lord Lothian reminded us. Nevertheless, pending an agreement between the major nuclear Powers on some form of curtailment of the present nuclear confrontation, this Committee has much work to do to clear away as many as possible of the entanglements in the way of a solution of the long-standing verification problem.

36. Consequently, the Canadian delegation contends that throughout 1971 this Committee should allocate a major portion of its time to an intensive examination of what appear to us to be the three salient aspects of the problem:

37. First, the need for international co-operation in the development and improvement of facilities for the detection, location and identification of underground nuclear tests by seismological means, as called for in operative paragraphs 2 and 3 of resolution 2663 A of the twenty-fifth session of the General Assembly.

38. Second, the need for an examination of ways of devising a verification system that will be adequate to ensure compliance with a complete underground test ban; and

39. Third, the need for an examination of ways to devise — if a comprehensive agreement is not attainable soon — underground test limitations, possibly including quotas, which conform to the existing capabilities for seismological verification and which might expand pari passu with improvements in verification technique.

40. International as well as national seismological identification capabilities should play a fundamental role, as the Canadian delegation has been suggesting and attempting to demonstrate through study of its possibilities, in facilitating the monitoring of a complete underground test ban. Alternatively, if a complete test ban cannot be negotiated in the near future, international seismic data exchange should facilitate lower thresholds of prohibition and of seismological detection than would otherwise be possible. As I stated at the twenty-fifth session of the General Assembly in New York on 2 November 1970:

"There appears to be a growing recognition of the potential role of seismological data exchange, on a... guaranteed basis, in facilitating the verification of any underground test ban, and thus promoting the long-sought agreement on this question. Alternatively, the international exchange of seismic data on an assured availability basis might contribute to a threshold treaty which would at least impose a limit on the size of the tests carried out, in the event that agreement on the broader basis appeared to be negotiable to the nuclear Powers directly concerned."
(A/C.1/PV.1749, provisional, pp.8-10).

41. Canadian scientists have devoted considerable effort to the study of the existing multilateral capability for monitoring an underground test agreement by seismological means as well as of the potentialities. As a result of these studies, which are continuing, we have made a number of general suggestions (CCD/305) concerning ways to provide, with very little financial commitment, more of the basic data enabling a better definition not only of existing capabilities but also of significant improvements in these capabilities. The Canadian study, based on the information submitted in response to the questionnaire circulated by the Secretary-General (CCD/284/Add.1-4) concerning the quantity and quality of the seismic data which national seismological stations could produce and which governments would be prepared to make available on an assured basis, was circulated in preliminary form to all members of this Committee and in final form to all Members of the General Assembly. I hope that the Committee will wish to give more detailed consideration to this matter. In due course I hope to table, for the convenience of delegations, another working paper summarizing in briefest form the conclusions and recommendations of the study which has been made in Canada.

42. Our study suggested, as the Committee will recall, that the seismic stations investigated should have a combined capability for the identification of underground nuclear explosions in the northern hemisphere down to about 60 kilotons in hard rock -- that is, let us say, magnitude 5.6 to 6.0 in hard rock -- using only the "positive identifier" method. To achieve an identification threshold below magnitude 5.0 all available identification criteria must be brought to bear in a multivariate analysis. We hope that our basic attempt at an assessment of the existing state of the art of seismological verification and of the capabilities and potentialities of international seismic exchange, which was for the first time based on real data and figures as a result of the Secretary-General's questionnaire, will be useful to the Committee in discussing what measures may be appropriate and feasible to improve that capability.

43. We believe that such an examination would also lead logically into the second item of business I have suggested regarding a test ban: namely a discussion of the suggestions for verification procedures which could supplement seismological monitoring in a complete test ban. But, unless those discussions prove fruitful, the Canadian delegation believes that the Committee should turn its attention to what is perhaps the most promising of all prospects: negotiations to cut the garment of an agreement on underground test limitations to the cloth of existing and potential seismological verification capabilities. The delegation of Japan has already contributed extremely interesting suggestions in this respect (ENDC/260).

44. An in-depth examination such as I have suggested: first, of the improved availability of seismic information; second, of various verification procedures in addition to or based on seismological monitoring; and third, of the options and risks associated with various levels of test prohibition, would in our view provide a firmer foundation so that, when the international political situation permits a decision on a further ban on nuclear testing, this essential work will be well in hand in this Committee.

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2.3.71 CTB,C-O

37. Furthermore, my delegation is deeply concerned about the present situation: namely that the United States and the Soviet Union, while on the one hand engaging in negotiations, seem at the same time to be rapidly improving the quality of their strategic nuclear arms. If they are going to confine the scope of their talks principally to the quantitative limitation on strategic nuclear missiles and virtually exclude the possibility of any qualitative limitation, such as the limitation of the development, testing and deployment of new strategic nuclear missiles, it is rather doubtful to what extent those talks will be able to contribute to the maintenance of international peace and security; and the significance of the talks, which I have emphasized, will be considerably diminished. In the light of the above considerations I should like on this occasion to urge the United States and the Soviet Union to consider also without delay the possibility of qualitative limitation, such as the regulation of strategic nuclear missile testing, as far as such limitation can be reliably verified at the present stage of scientific and technological development.

38. The next question with which I should like to deal in my statement today is that of the prohibition of underground nuclear weapon tests, one of the nuclear disarmament measures to which this Committee should urgently address itself. With a view to facilitating the solution of this problem, I feel it necessary to draw the attention of all members of this Committee to the following points.

39. First, seismological methods of detecting and identifying underground events would be the principal means of verifying compliance with the prohibition of underground nuclear weapon tests; although it is by no means my intention to deny the importance of on-site inspection. We know that underground nuclear explosions above a certain level of magnitude can be detected and identified by seismological methods; and this is substantiated by the results of the meeting of experts which was held on the initiative of the Stockholm International Peace Research Institute (SIPRI).

40. Secondly, therefore, it would be important for us to study fully the merits and demerits of prohibiting, first of all, underground nuclear-weapon tests above a certain level of magnitude. I am inclined to advocate that the prohibition of underground nuclear-weapon tests above such a level of magnitude detectable and identifiable using the seismological methods at present available would have positive advantages in the field of arms control and disarmament. This opinion is based upon the fact that as early as 1960 we witnessed the exploratory attempts made by the nuclear Powers concerned to achieve such partial banning of underground nuclear-weapon tests; that not a small number of underground nuclear weapon tests being carried out at present are actually of a scale large enough to be detectable and identifiable with great certainty by seismological means; and that there seems to be enough evidence for us to assume that such large-scale nuclear weapon tests will continue to be conducted with the aim of increasing the sophistication of strategic nuclear weapons.

41. Thirdly, I believe it necessary for members of this Committee to reach agreement as soon as possible on what is the level of magnitude above which underground nuclear explosions can be detected and identified at present with great certainty by seismo-

logical methods, namely on the question of determining the threshold. For its part, the Japanese delegation once referred to the level suggested in the SIPRI report as an appropriate level of threshold (ENDC/PV.424 paras.40 et seq.). Although we still believe that that level is adequate for our purpose, we have no intention of insisting on that position. We are convinced, however, that what is urgently required is the determination to achieve the prohibition of underground nuclear-weapon tests above a certain threshold, once such a threshold is decided on, pending the prohibition of the smaller-scale underground nuclear explosions below the level of that agreed threshold which cannot at present be detected and identified by seismological methods.

42. While recognizing the difficulty of the problems involved in any ban on those small-scale underground nuclear-weapon tests which cannot be detected and identified by seismological methods, since there is no other way effectively to verify compliance with the prohibition, it will surely be unnecessary for us to emphasize that we should make unremitting efforts to improve our detection and identification capability so that the prohibition of such tests may be achieved at the earliest possible date. In this connexion I wish to pay a high tribute to the initiative taken and continuous efforts made by the Canadian delegation towards this goal.

43. I might add that, in order to improve our detection and identification capability, we should intensify our efforts to promote international exchange of seismic data and improve the existing world-wide network of seismological observatories. We should also consider the possibility of improving the present systems of international data exchange existing for purely scientific purposes, such as the Bureau Central International de Seismologie in Strasbourg and the Tsunami Warning System in the Pacific, the members of both of which already include socialist countries, in view of the potential contribution of such systems to the organization of an international system of verification of a ban on underground nuclear-weapon tests.

44. Furthermore, I believe that it is worth while for us to consider again at this juncture the usefulness, as a means of improving our verification capability, of the installation of "black boxes", which was proposed in 1962 by the Soviet Union (ENDC/73*).

45. It has been stated by many members of the Conference of the Committee on Disarmament, including Japan, that the cessation of the production of fissionable material for use in weapons is another important measure that could lead to nuclear disarmament. On 8 April 1969 the representative of the United States suggested (ENDC/PV.401, para.7) that in order to ensure compliance with a cut-off agreement the International Atomic Energy Agency (IAEA) should be asked to safeguard the nuclear material used in each nuclear-weapon State's peaceful nuclear activities and to verify the continued shutdown of facilities for the production of fissionable material that are closed.

46. In the belief that it is reasonable in the present circumstances to entrust such control to the IAEA, and that this measure would constitute a step towards the correction of the imbalance of obligations as between the nuclear-weapon States and the non-nuclear-weapon States under the Treaty on the Non-Proliferation of Nuclear Weapons (ENDC/226*), the Japanese Government has supported the approach suggested by the United States. We recall that many other members of this Committee, including inter alia Canada, Sweden and the United Kingdom, have also supported the United States proposal; and we should like to express our hope that a cut-off agreement will be concluded as soon as possible along the lines to which I have just referred. At the same time permit me to reiterate our continued support for the transfer of fissionable material for use in weapons to peaceful purposes as a measure either connected with or supplementing a cut-off agreement.

47. While hoping for the achievement of agreement on this matter on the basis of the

principles to which I have referred, the Japanese delegation ventures to suggest that, even before agreement is reached on the points I have just mentioned, both the United States and the Soviet Union agree to make available at an appropriate price part of their stockpiles of weapon-grade enriched uranium for peaceful nuclear activities in non-nuclear-weapon States. As the world's nuclear activities expand by leaps and bounds in future, the demand for enriched uranium will also increase tremendously. In anticipation of such a situation many countries are increasing their efforts to develop uranium enrichment techniques or improve efficiency in the use of nuclear fuel. If the transfer of enriched uranium now intended for weapon purposes to use for peaceful purposes were to be put in practice, it would certainly contribute greatly to the stabilization of the supply and demand situation in the world with regard to enriched uranium. Furthermore, it seems to us that the blending process by which enriched uranium for use in weapons would be made suitable for peaceful use does not involve any great technical difficulties.

48. It is essential, of course, that such transfer should be carried out under an adequate safeguard system. We for our part consider that it might be possible for the United States and the Soviet Union to transport, under their own control, agreed amounts of weapon-grade enriched uranium in their stockpiles to non-nuclear-weapon States, where the uranium would be blended in the presence of the representatives of an appropriate international organization, such as the IAEA, the United States, the Soviet Union and possibly other States. We should like to emphasize that such a procedure would provide us with effective international control without necessitating access to facilities in the United States and the Soviet Union. My delegation also believes that our present suggestion, if put into practice, not only would contribute to increasing the nuclear fuel supply but also could become an embryo version of the open destruction of nuclear weapons under international control.

49. Having completed our work on the elaboration of the sea-bed Treaty, we have before us another measure of great urgency: that is the prohibition of chemical and biological weapons. The Japanese Government has always been of the opinion that, with regard to the scope of weapons to be prohibited, we should consider both chemical and biological weapons at the same time, and has suggested all along that it is necessary in order to facilitate our work on this question to proceed first with the consideration of and to reach basic agreement on matters of substance, especially with regard to the verification problem. On the basis of that position the Japanese delegation notes with pleasure that many techniques for solving the verification problem were suggested and subsequently considered during last year's sessions.

50. In disarmament negotiations in our times the solution of numerous problems of a scientific nature is required before any political decision can be taken; and I believe that the question of verification relating to the prohibition of chemical and biological weapons is one of those important problems for the solution of which scientific and technological co-operation among all countries is essential.

51. With regard to the question of verification, we have stressed the usefulness of holding international meetings with the full participation of experts. We recall in this connexion that informal meetings of this Committee have made a substantial contribution to deliberations on the verification problem. As we consider such meetings invaluable, we should like to suggest that they be held as often as possible and that, with a view to achieving substantial progress on how to verify compliance with the prohibition of chemical and biological weapons, we have, during an appropriate period of time at the next session of this Committee, an intensive series of informal meetings, with experts from the socialist countries also participating, on subjects which the Conference of the Committee on Disarmament would select in advance. For that purpose it might be useful for us to decide during the course of the present session on concrete items for

deliberation in such meetings.

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2.3.71

CBW

76. Substantial amendments have been made in the provisions of the convention concerning guarantees of its observance by the States parties thereto. We should like to dwell on this point especially. During the debates in the Committee on Disarmament, including those at its informal meetings attended by technical experts, many delegations have recognized that, taking into account the specific peculiarities of chemical agents whose production for military and peaceful purposes is closely intertwined, it is impossible to establish any international forms of verification of the prohibition of the production of chemical weapons in the usual sense of the word "verification". This conclusion coincides with the views of experts of the League of Nations who studied this question for a long time and concluded that, in the event of the functions of verification of the prohibition of the production of chemical agents being transferred to an international body, "the difficulties would be considerable". They considered doubtful "the effectiveness of ... international inspection". Such inspection, in their view, "would be a source of numerous disputes and suspicions" (A/AC.50/3, para.82).

77. In this connexion the practical conclusion shared by many States would be that it is necessary to make active use of national means of control in combination with possible international methods of guaranteeing the observance of an agreement by the parties thereto. The Committee's attention was drawn to this point by the representative of Sweden, Mrs. Myrdal, in her statement today. Taking this into consideration, the sponsors of the draft convention on the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and on the destruction of such weapons made a number of significant additions in a new, revised draft. It seems to us that the provisions concerning guarantees of the fulfilment of an agreement which are contained in the revised draft convention submitted by the socialist countries at the twenty-fifth session of the General Assembly of the United Nations represent the approach which should constitute the basis for the solution of the problem. This approach met with wide approval at the twenty-fifth session of the General Assembly and was confirmed in its resolution, which states that --

"...verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure the effective implementation of the prohibition;" (Resolution 2662 (XXV)).

78. Under article V of the draft convention each State party is bound to take the necessary legislative and administrative measures for the implementation of its provisions. This is the basis of national verification measures. At the same time the draft convention contains articles providing for the international aspects of the guarantees of compliance with the agreement. Thus, for instance, article IV of the draft convention provides that the States parties shall be internationally responsible for taking within their national boundaries and their jurisdiction all possible measures to ensure compliance with the provisions of the convention. By assuming such an international responsibility each State party to the convention stands before the world community as a guarantor that neither its government nor its juridical or physical persons will engage in the development, production and stockpiling of chemical and bacteriological weapons.

79. Moreover, the draft convention of the socialist countries provides also for such an international procedure as the examination of complaints. As practice in respect of other agreements has shown, the most effective procedure can be the combination of an article providing for consultations among States parties to an agreement if doubts arise

about the fulfilment of the provisions of an agreement by any of the parties thereto, and an article stipulating the right of States parties to lodge a complaint, if necessary, with the Security Council of the United Nations together with a request for investigation. The entrusting of the Security Council with the examination of complaints connected with the fulfilment of the provisions of the convention enhances the responsibility of the States parties to the convention and strengthens the guarantee of their compliance with its provisions. The very fact of the establishment of such a procedure for considering complaints, apart from its direct purpose, is also significant from the point of view that it would have a restraining effect with regard to possible violations of the agreement.

80. In this connexion it is also important that under articles VI and VII the States parties to the convention undertake to co-operate with one another in settling questions which may arise in regard to fulfilment of the provisions of this international instrument, as well as in carrying out any investigations that may be undertaken by the Security Council.

81. It is natural that this highly important and comprehensive international instrument covering the prohibition of chemical and bacteriological types of weapons of mass destruction should contain a clause providing for the possibility of further elaboration of the convention, taking into account the subsequent scientific and technological achievements in this field. It is also necessary to review from time to time the operation of the present convention in order to have the assurance that the purposes set forth in the preamble and the provisions of the convention are really being carried out. That is precisely the reason why article X provides for a review conference to be held five years after the convention has entered into force.

82. Thus in its present form the draft convention submitted by the socialist countries proposes a carefully worked out system of guarantees of the fulfilment of the agreement. We should like to stress once again that the conclusion of an agreement on the basis of this draft would provide an opportunity of solving in a positive manner the problem of the complete prohibition of chemical and bacteriological weapons. At the same time that prohibition would not affect in a negative way the peaceful activities of States in the fields of chemistry and biology.

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Sweden/Myrdal

9.3.71 CBW

23. I wish now to turn to this very question of verification, which constitutes the second major problem, the first having been that of the scope of the prohibitions we want to incorporate in an international instrument. As I have just said, the Swedish delegation holds that the specification of the prohibitory rules is to a considerable extent dependent on what is verifiable, and to what degree. As a matter of fact our Committee followed a similar course in regard to the non-proliferation Treaty, as the prohibitory articles I and II of that Treaty are couched in quite general terms, banning the production of nuclear weapons, while article III on control contains the specific rules about the substances the production of which is to be controlled.

24. In a field as complex as that of chemical and biological means of warfare, rules as to verification would have to be more varied. Their elaboration must be so careful that all necessary safeguards are introduced without unduly interfering with the production for other than military uses of items which are of high value -- for instance, in the biological field pharmaceuticals for immunization and other protective measures, and in the chemical field a long series of important industrial products. For these reasons we have, as it were, to go back again on the mapping expedition, examining the verification needs in relation to all those categories of weapons and agents I have just indicated.

25. As to the first and general obligation of governments not to produce weapons, the solution might have to be that no specific verification procedures would be prescribed, but reference would be made to the more detailed, but varying, procedures coupled with respective subsidiary prohibitions in relation to agents. A complaints procedure, such as is now contained in both the British and the socialist draft conventions, ought most probably to be instituted in order to allay suspicions of violation of this general article as well as the corollary ones on training, manuals, and so on. The Swedish delegation has in some parallel cases advocated that recourse to lodging complaints with the United Nations should not be had abruptly but should be preceded by a series of attempts to clarify the situation through an exchange of views between the parties involved -- challenge, we have called it. It is interesting to note that in their draft the socialist States seem to be motivated by the same intention, as article VI of that draft speaks of an undertaking "to consult one another and to co-operate in solving any problems which may arise in the application of the provisions of this Convention." (A/8136, p.4)

26. Next, in regard to destruction and other forms of disposal we must express regret that these matters seem to have fallen largely outside this Committee's attention so far. In order that the international community as a whole should be satisfied that the definite elimination of chemical and biological weapons and agents from national arsenals is taking place in accordance with the treaty provisions, we ought to consider the possibility of activities aimed at destruction or diversion being conducted under the surveillance of an international agency. Some of the substances in question might even be transferred to an appropriate agency for laboratory uses in countries in need of such supplies for research or for health protection. The Swedish delegation intends shortly to submit a technical working paper in order to facilitate debate on this intricate aspect of verification.

27. When we proceed to the chemical and biological agents whose production etc. is to be regulated, as I have underlined today and also in earlier statements we must proceed with great circumspection, with open minds, and be ready to choose different avenues of control in regard to different substances. The main outline of a control system, however, has emerged from our previous debate and documentation, and not least from General Assembly resolution (2662 (XXV)). I have underscored how necessary it is to have a combination of national and international control measures to rely on. We are fortunate to have already -- I believe in all countries -- a basis laid down in domestic regulations for the production and handling of poisons. More extended schemes and more rigorous methods of control are following rapidly in the wake of the new concern about the environment; and international harmonization of such national legislation is being discussed, starting with the narcotics field. Undoubtedly international co-operation will be expanded. Probably a scheme for international statistical reporting, at least in regard to some agents, will come to seem more and more feasible. Scientific and technological information will also become increasingly available internationally. Openness in this regard is to be recommended.

28. The task of monitoring production of chemical and biological agents will thus, we believe, be facilitated gradually; but in such a situation of flux it is obviously difficult to lay down rigid formulae for verification over the whole field and once and for all. We must rely on getting more contributions from experts. The Swedish delegation supports the suggestions made by several delegations that experts should be called in to help to clarify the modalities of verification. Such work by experts is required in order to find appropriate verification methods. But what we in the Conference of the Committee on Disarmament must confine ourselves to at this point is a discussion on what verification procedures are open to us at this stage, and the general structure of a verification system.

29. The model which the Swedish delegation favours for international checking on all

prohibited activities is that of a chain of step-by-step exchanges of information and consultation (challenge). In addition a complaints procedure must be outlined, the selection of the international agency to which complaints should be addressed being, as far as we can see, the only problem as yet unresolved in relation to this final chapter of a systematic process of verification.

30. However, I would venture to go one step further towards international verification in regard to category (a), comprising those chemical agents the production of which should be unconditionally prohibited — that is, those chemicals and toxins which have no use other than military use. They also constitute the most deadly weapons and consequently the ones we should be most anxious to eliminate.

31. The suggestion of drawing such a demarcation line has so far only been checked with our own experts; but it has, I find, a reassuring resemblance to technical suggestions put forward by Japanese and Dutch experts as set out in working papers CCD/301 and CCD/320. The expert advice is that, if a line were drawn confining those chemical agents which have a toxicity of more than one mg per kg body weight, it would circumscribe those which have no practical peaceful uses, which chemical compounds with a toxicity below this limit often have.

32. Consequently our suggestion is that, in case of production of those supertoxic compounds, as we might call them, the national authority charged with control and inspection duties would be obliged to report for transmission to an international agency the reasons for such production. One should then weigh carefully the rights and obligations of the international agency in cases of suspected production for weapon purposes. If the reports showed that production of such items was becoming important — in quantities above one kg, say — the need could not be ruled out at this stage for some form of on-site inspection, either on the invitation of the suspected party or obligatorily. In this connexion we have noted with interest the Polish suggestion (CCD/PV.464, para.26) that on-site inspection might be used if the Security Council so requested. Our question is whether recourse to such inspection should not be possible somewhat earlier in the challenge and complaints procedure.

33. Besides those two problems — that concerning the scope of the prohibitory treaty, which we submit must be all-inclusive in regard to chemical and biological weapons and their constituent parts, and the verification procedure, which we submit must be diversified according to specific characteristics — there remains the problem of timing. Shall we content ourselves, as suggested by the delegation of Morocco in its working paper (CCD/295) submitted in 1970, with an agreement on joint prohibition of chemical and biological weapons, with verification procedures defined, however, in the main instrument for biological weapons only and with provision for a supplementary document later on verification procedures for chemical weapons? That would involve timing in stages for the total elimination of all types of weapons.

34. But this way of distinguishing between biological and chemical weapons is one which I rejected earlier. If any category were to be singled out for special attention, it is rather the most toxic gases and chemical compounds that should qualify. And if some biological agents were produced as exclusively for military purposes as those, that group would stand in line to be included in the "unconditional" prohibition.

35. Admitting that the verification methods which are ready for immediate application are found wanting, the Swedish delegation submits that we should proceed in a somewhat different manner. First, we should accept the idea of a total, comprehensive agreement but we should include an article setting a deadline — one deadline or several different ones — for a more detailed elaboration of verification procedures. A precedent for such a course of action is found in the Treaty on the Non-Proliferation of Nuclear Weapons, which entered into force a year ago while safeguards agreements are still being negotiated in Vienna.

36. This of course presupposes a considerable degree of self-discipline on the part of States entering into the agreement; but why should we not have confidence in such a self-controlled observance of international law? The Geneva Protocol relies on it, the United Kingdom draft convention relies on it for the prohibition of biological weapons; and of the members of this Committee a unilateral renunciation has been made by my country and Yugoslavia at least of both chemical and biological weapons, and by Canada, the Netherlands and the United States in regard to biological weapons, without waiting for international control measures.

37. At the beginning of this statement I advanced the suggestion that we should start to exchange what we each conceive as practicable models for a treaty on chemical and biological means of warfare. What I have attempted to sketch today is one such model. It has taken as points of departure quite concrete and technical facts about the various agents within this area. But it has also been framed, or at least thought out tentatively, in terms which could be fitted into a prospective legal instrument. In elaborating it we have endeavoured to incorporate only such elements as would, we believe, meet with general approval. The Swedish delegation will eagerly await suggestions for alterations to, elaborations of or substitutions for this attempt at a compromise formula.

38. In order to facilitate our process of mutual comprehension — yes, even in order to press forward with our work in this Committee — we would like to invite other delegations to reply to certain basic questions more or less immediately. These are:

1. Do you agree that we decide to exclude from the ambit of this new treaty the question of the use of chemical and biological weapons, and to confine it to prohibiting production, testing, stockpiling and transfers of such means of warfare and prescribing the elimination of existing stocks?
2. Do you agree that we attempt to include in a first, principal clause an undertaking by States not to produce, etc. such weapons?
3. Do you agree that, for the purpose of specification of agents whose production etc. is forbidden, as well as for verification requirements, we place the supertoxic chemicals in a category under particularly severe restrictions and control?
4. Do you agree that, for biological agents and such chemical agents as will have to be produced in sometimes large quantities for non-military purposes, we rely for control first on national systems of book-keeping, inspection and verification, possibly coupled with statistical reporting to some international agency, subject, if suspicion is aroused, to subsequent processes of verification by consultation and challenge and, in the final instance, by lodging complaints with the United Nations?

CCD/PV.500

pp.7-12

Czechoslovakia/Vejvoda

11.3.71 CTB,CBW

11. Inasmuch as the progress recorded in the development of seismographic technology has made possible reliable control by national means, on-site inspections have become unnecessary. It is obvious from documents and from statements made by a number of delegations in this Committee and also in the General Assembly that the current world standard of seismological instruments and the advance registered in their efficiency are evaluated similarly by many other countries. In this connexion it is not uninteresting to note once again, as the representative of Yugoslavia did at our last meeting (CCD/PV.499, para.52), a private view of the former leader of the United States delegation in this Committee, Mr. Foster, "that it is fully within the scientific competence of the United States to monitor adequately" such a total test ban without on-site inspection.

12. It seems to us that in this situation, when many countries are pointing out the technical unfeasibility of ensuring 100 per cent control in any disarmament measure and feeling the desirability of securing reasonable guarantees of the implementation of the

obligations assumed, the current level of the construction of seismological instruments has provided for some time already the possibility of such reasonable guarantees in the field of control.

13. No progress in technology or science can, however, replace the will to take the relevant political decision in the specific field; although it may, of course, play a positive role. In the past some constructive proposals for the solution of the problem of underground tests have been submitted to this Committee. They were a probe to ascertain the readiness of States to take the relevant political decision by which they would renounce the possibility of further perfecting their nuclear arsenals. To refresh our memories, allow me to recall here the proposal submitted by the United Arab Republic in 1964 indicating a possible solution of the problem by the adoption of a treaty banning underground tests of a seismic magnitude of 4.75 and higher, together with a moratorium on all other explosions below that limit (ENDC/144, p.33). The Czechoslovak delegation supported, and continues to support, that constructive proposal.

14. Some States, however, continue to evade agreement on the pretext of seeking methods of control. They divert attention from the actual problem by insisting on studies on exchanges of seismological information. As the socialist countries have made clear on several occasions, such exchanges may play a positive role as a supporting means of verification. The Czechoslovak Socialist Republic, which has been collaborating and exchanging information in this field with many countries for several decades, is ready to place such co-operation on a broader and more extensive basis, under the terms of an underground test-ban treaty.

15. We do not consider it appropriate, however, that the obligatory transmission of information on seismic stations should be made a condition of agreement on an underground test-ban treaty, or even that a special body should be established to evaluate the information submitted. Speedy agreement on an underground test ban will not be facilitated either by the proposal to solve the problem by way of several stages, on the basis of annual diminishing quotas of permitted explosions, or through other and different proposals envisaging regular on-site inspections.

16. The demand for such control, which constitutes an obstacle to reaching appropriate agreement, should be re-examined and abandoned by those who, disregarding the realities, insist on it. That should be done particularly in the light of General Assembly resolution 2663 B (XXV), which requested the Conference of the Committee on Disarmament —

"...to continue, as a matter of urgency, its deliberations on a treaty banning underground nuclear weapons tests, taking into account the proposals already made in the Conference as well as the views expressed at the current session of the General Assembly, and to submit to the Assembly at its twenty-sixth session a special report on the results of its deliberations." (CCD/318)

20. Past deliberations on the subject under review concentrated mainly on the problem of whether the two types of weapon should be treated jointly or separately; the problem of defining the scope of bacteriological and chemical weapons respectively, whether the prohibition relating to bacteriological weapons only should be placed under control, whether and how the prohibition of chemical weapons can be verified and how such verification should be effected. The socialist delegations attempted to give answers to those main questions in their draft convention. We are fully aware that answers to some of them will have to be clarified further. What is the approach of some of our partners?

21. It is not my intention to repeat here all the arguments adduced during our last session aimed at weakening the draft convention of the socialist countries. The argument most frequently heard was, as the United States representative said at our meeting

on 17 February 1970, that the countries possessing chemical-warfare capability --
 "...would be reluctant to give up this capability unless they were assured
 that all possible opponents had also given it up and would not develop it
 again." (CCD/PV.449, para.28)

That assertion gives rise to the demand for thorough control. However, we seldom find a specific proposal in the statements made by delegations holding a similar view as to what form such control should take. Moreover, in the same statement to which I have referred, the United States representative raised doubts about whether one could ever be sure that all possible opponents had given up chemical weapons when he said "Such assurance would be difficult to achieve even with extensive inspection." (*ibid.*) Instead of outlining their plans for inspection or specifying what is acceptable to them, the delegations requesting such assurance and constantly emphasizing the necessity for thorough inspection refer only to what is unacceptable to them.

22. The suggested meetings of experts to talk about ways of controlling chemical weapons would be, in our opinion, of little value. Our experience shows that in many cases -- and our informal meetings only prove it -- experts have highly individualistic and often contradictory views. If we are really to move ahead, it is necessary to weigh not only technical problems but also political points of view. We believe that experts can hardly help to "cool a hot potato" on questions as complicated in nature as the system of control of chemical weapons. Our opinion on this matter seems to coincide with that expressed by the Chairman, Mrs. Myrdal, in her capacity as representative of Sweden, at our meeting on 9 March when she said that the Conference of the Committee on Disarmament itself should deal with such problems as verification procedures and the general structure of a verification system (CCD/PV.499, para.28).

26. Concerning the approach of socialist delegations to the control of chemical and bacteriological weapons, I would like only to say briefly that we have adopted a sincere approach to this problem in the interest of bringing about a truly workable measure. This approach was very aptly expressed by the representative of the Soviet Union, Mr. Roshchin, on 2 March (CCD/PV.497, paras.71 et seq.). In our view a combination of national means of verification and appropriate international procedures would secure an effective method of control over obligations assumed. We are prepared to consider any reasonable proposal in this respect.

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Netherlands/Eschauzier

18.3.71 C-O,CBW

6. Leaving aside the implications of article VI, I think it appropriate to dwell on another crucial aspect of the non-proliferation Treaty: namely the implementation of article III. Uncertainty about the set of rules and procedures which would determine the structure and content of safeguards agreements under the Treaty was one of the main reasons for the continuing qualms and hesitations of some Powers, and in particular the so-called threshold countries. Like some speakers before me I feel justified in believing that the remarkable success achieved in an unusually short span of negotiation by a special Committee composed of members of the International Atomic Agency (IAEA) but including also non-signatories of the non-proliferation Treaty will go all the way towards dispelling any remaining doubts as to the general acceptability of the safeguards to be applied under article III of the non-proliferation Treaty.

7. In 1965 I happened to be closely associated with the setting-up of the Vienna Agency's current safeguards system. Having personal experience of the intricacies and sensitive issues which beset those unique international negotiations, I am acutely aware of the rare co-operative effort exerted by the members of the special IAEA Committee.

The new set of guidelines is very well tailored to the postulates of the sixth paragraph of the preamble to the non-proliferation Treaty; and in accordance with the present state of the art the new guidelines are based on three principles -- accounting, containment and surveillance. Moreover, proper emphasis has been put on the role of the accounting and control systems of the States themselves as a useful adjunct to enable the IAEA to verify compliance with the provisions of the Treaty. Clearly those national or regional systems are intended to serve as an efficient infrastructure and not as a substitute for international verification procedures. This is an important point and worth keeping in mind in discussing mixed or complementary systems of verification in the context of other arms-control and disarmament measures.

8. Thanks to that recent accomplishment of the IAEA Safeguards Committee, the Vienna Agency is now in a position to negotiate safeguards agreements not only with non-nuclear-weapon States in accordance with the non-proliferation Treaty but also with the United States and the United Kingdom, to meet their voluntary offer to accept the application of similar safeguards to their nuclear activities subject to exclusions for reasons of national security only. I wish to register here once again my hope that other nuclear-weapon Powers will follow their example.

9. Furthermore, would it be too much to ask, in this same context, that the major nuclear Powers agree on a verified cut-off of the production of fissionable materials for weapon purposes? This would certainly be a clear step towards establishing a reasonable balance of obligations between the nuclear and the non-nuclear parties to the non-proliferation Treaty. Such an offer has repeatedly been made by the Government of the United States. My own delegation dealt with this matter in its statement in this Committee on 28 August 1969 (CCD/PV.432, paras.52-54). In our view this remains a pertinent suggestion on which action should no longer be delayed, as was cogently argued by the representative of Japan on 2 March (CCD/PV.497, paras.45 et seq.).

21. As to the question of verification of a ban on the production of chemical warfare agents, there is a great difference between admitting that it is not feasible to establish international controls over entire chemical industries, and contending that any kind of control whatsoever is out of the question. A wide range of options exists between these two opposite poles which it is the task of this Committee to explore. In so doing, we have a guideline in paragraph 5 of General Assembly resolution 2662 (XXV) (CCD/318): namely that verification should be based on a combination of appropriate national and international measures which would complement and supplement each other. In this connexion I should like to refer to what I said a moment ago about the role of national systems in the new guidelines for safeguards under the non-proliferation Treaty.

22. Some delegations have already outlined possible international elements of a verification procedure. Inspection by challenge or invitation has been mentioned. My own delegation stressed the relevance of methods of fact-finding. We also pointed out that techniques for the verification of the production in certain facilities should be further explored (CCD/PV.458, para.36). There may not be a single procedure which can be applied to the whole chemical field; nor is it possible to foresee at this juncture what will finally prove to be the right "mix". My delegation intends to assist in the search for specific verification procedures which may offer a perspective of progress on a selective basis.

23. Basically we agree with the representative of Canada that the central issue is now to "delineate verification procedures for an agreement on agents of chemical warfare". (CCD/PV.496, para.50) We think, however, that this probing can very well be coupled, as a parallel exercise, with a study of the definition of the chemical agents which are to be unconditionally or conditionally proscribed. The working paper (CCD/320) which I presented on 2 March is in line with this consideration.

56. Mr. Garcia Robles, the representative of Mexico, described in his statement of 23 February the considerations under which a proper and reasonable verification system should function. He pointed out that a perfect system was not possible but that, if the system were effective, then a State violating a treaty would be acting in full knowledge of the fact that such a violation "must inevitably, and probably very soon, be discovered" (CCD/PV.495, para.60). The United States certainly does not expect a perfect verification system. The rule of reason must apply here as elsewhere. What we do require is just what Mr. Garcia Robles described -- a sufficiently high probability of detection that a State which might contemplate violating a ban would be deterred from doing so.

57. If this were not the case, States which abided by the prohibition would be at a serious disadvantage vis-à-vis those that might not. But the consequences of an inadequately-verified agreement go even beyond the matter of military advantage and disadvantage. For if under a treaty a possibility existed for clandestine acquisition of a chemical-warfare capability, then the likelihood that such weapons would one day actually be used could be enhanced. That would be an outcome of our efforts here which none of us would wish. The point is important, and it is not self-evident, so perhaps I can elaborate on it briefly.

58. One of the most effective deterrents today against the use of chemical weapons is the widespread assumption that chemical weapons would be employed in retaliation. Many parties to the Geneva Protocol (A/7575/Rev.1, annex VI) have made formal reservations specifically preserving this right. The Soviet Union has attached particular importance to this right and has referred to it in a number of statements in this Committee. If we are to give up the effective capability to retaliate, then effective verification is the psychological deterrent which we believe must take its place. Only under such conditions can further serious constraints be placed on chemical warfare in the form of a prohibition of production and possession of chemical weapons.

59. In saying this we do not wish to understate the importance of the Geneva Protocol. As the Committee knows, my Government hopes shortly to ratify it. I wish, however, to make the obvious point that the Protocol needs all the help it can get in preventing the use of these weapons, whether that be by a fully credible system of verifications applied to appropriate forms of controls or by maintenance of deterrent capabilities.

60. These are, in essence, the reasons why the United States is so insistent on adequate verification. I should now like to look a bit more closely at that very important word "adequate".

61. One of the first questions to be asked in devising an adequate verification system concerns the amounts of chemical agents or of weapons that would have to be detected if significant violations were to be deterred. A few kilograms of even the most potent chemical agent could not generally be considered a significant capability from the military point of view. We would not, therefore, need a system so refined that it could detect such small amounts. At what level of production would we become concerned? Presumably different countries would give different answers, depending in part on the extent of the potential threat they perceived and the size and sophistication of their armed forces. The amount would also be different for different agents.

62. We do not intend to go into the question at all thoroughly today; but, keeping the general principle in mind, we would like to discuss a hypothetical example of what might be a "significant violation". For purposes of the calculations set forth in the following remarks, we will suggest that such a development would be the production, contrary to a treaty obligation, of, say, 10,000 tons of organophosphorus nerve agent over a period of a year. That would not be an unduly high figure for a major country to produce; yet

it would represent in itself a capability of substantial military significance. Such production would provide enough agent to fill about three million artillery rounds.

63. In the interim since last summer's session, the United States Arms Control and Disarmament Agency has devoted considerable time and effort to a study of the possibilities for detecting violations of a prohibition on the production of organophosphorus nerve agents. We consider this form of prohibition to be central to any further meaningful controls on chemical weapons. In order to gain a better understanding of the problem we would face in verification, we prepared an analytical model of a hypothetical production operation. We asked ourselves, how visible would an operation be that was capable of manufacturing 10,000 tons of organophosphorus nerve agent in a year? What steps would be involved? What quantities of constituent materials would be required? How big an operation would it be? Finally, how would such an operation compare with the totality of the commercial chemical production employing the same materials?

64. In describing to the Committee some of the results of this study we will be addressing, in parts to the problems raised in certain working papers presented last year, particularly those of Canada (CCD/300) and Italy (CCD/304), which posed a series of important questions bearing on the role which economic data monitoring might play in a system of chemical-weapon control.

65. The phosphorus that would be used to produce agents of this type would come from phosphate rock, the raw material itself. The great bulk of phosphate rock is used for fertilizer manufacture, but a small proportion is used to produce elemental phosphorus. Approximately 80 per cent of United States elemental phosphorus production is, in turn, converted to phosphoric acid for the manufacture of detergents, medicines, water conditioners and food. Another 19 per cent is used to make such things as alloys, matches, gasoline additives and munitions. The remaining one per cent of elemental phosphorus production is converted into phosphorus trichloride. Most of this phosphorus trichloride is used for pesticide production and other commercial products; but this is also the substance from which the nerve agents are produced.

66. The amount of materials required to produce a given amount of nerve agent would differ for various specific agents. For purposes of this study we selected one type of agent, and we found that 10,000 tons of that agent could be produced in a year in the United States by the diversion of about one per cent of our annual production of elemental phosphorus. We can assume that a government that had decided to disregard a prohibition would tap the production chain at the level of elemental phosphorus, where the diversion would be as nearly invisible as possible, rather than, for example, drawing from phosphorus trichloride production, where the diversion would be proportionately greater.

67. The difficulty of detecting such a diversion becomes even clearer when we note that elemental phosphorus production in the United States increased, with wide fluctuations at an average of 4.4. per cent annually from 1964 to 1969. During the same period phosphorus trichloride production increased, also with wide fluctuations, on an average of 13 per cent each year. As more and more civilian products are developed using these substances, the growth of their production can be expected to continue. However, we find that in 1970 production of elemental phosphorus trichloride declined by 8.7 per cent.

68. Thus we see that an increase, a decrease, or even a considerable fluctuation in the reported production either of elemental phosphorus or of phosphorus trichloride would not in itself provide grounds for suspecting a violation of a ban on nerve-agent production. As we pointed out earlier, diversion of one per cent of annual production of elemental phosphorus in the United States could serve to produce 10,000 tons of nerve agent -- that is, enough agent to fill three million artillery rounds.

69. The quite visible decline in United States production of elemental phosphorus and

phosphorus trichloride in 1970 appears to have been related to general economic factors; it had nothing to do with the production or the non-production of nerve agents. None of our current production of these chemicals goes into the production of nerve agents. As we have told the Committee, the United States is not now producing nerve agents and, in fact, has not done so since mid-1968.

70. If I may, I will turn now to another approach to the problem of verifying a prohibition of nerve-agent production. We asked ourselves what physical, visual evidence of production might be available. Might there not be something characteristic and detectable by national means? I use the term "national means" here in the sense most commonly applied to verification problems: that is, using national resources to detect possible violations by others. We studied the supply of materials to the final, agent-processing plant, the external characteristics of the plant itself, and the shipment of the finished product from the plant.

71. To produce 10,000 tons of nerve agent over the course of one year would require a fairly substantial input of raw materials, taken all at once. If these materials were delivered to the processing plant on a continuing basis, however, an average of one railway carload daily would probably be sufficient. These materials could be transported in ordinary commercial containers.

72. As for the plant itself, there is no doubt that at least the final production stages would contain a hazardous operation, requiring very special precautions. All tell-tale equipment and other signs of agent manufacture, however, could easily be under cover. To give some idea of how much cover would be required, a facility capable of manufacturing 10,000 tons of agent a year could probably be housed entirely out of sight within a structure about the size of a football field. This would be only a small fraction of the floor space now employed in the United States for the manufacture of products utilizing substantial proportions of elemental phosphorus.

73. If the finished agent were shipped from the plant in bulk containers, this might require two railway cars a day on an average. The containers could easily be of a commercial type widely used in transporting various kinds of highly toxic chemicals. If filling of munitions -- that is, the shells and so forth -- were done within the plant, perhaps one-third more plant area would be necessary. There would then also be additional rail traffic depending on the kinds of munitions, which could range from artillery shells to large bombs. Given the differences in bulk, transportation of munition casings to the plant might average anywhere from two to ten carloads daily. Approximately the same number of railroad cars would be required to remove the filled munitions from the plant. These cars for shipment in and out could be of a closed type which would be indistinguishable, at least from any distance, from railroad stock used in civilian transport.

74. I have taken the liberty of exposing my colleagues to this rather technical exposition this morning in the belief, which we have often reaffirmed, that the nature of the problem of chemical weapons is heavily technical in character. We are often told, and have been told again this morning, that what is needed is simply a political decision; but political decisions, at least in my country, must be solidly based on the relevant technological facts. We feel very strongly that in putting forward these facts, as we see them, we are not throwing up any "technical smoke-screen" but are contributing in a serious, meaningful way to the task which has been entrusted to this Committee.

51. In the following year the Swedish delegation submitted, with the modest title of a working paper, what amounts to a complete draft treaty on the prohibition of under-

ground nuclear-weapon tests (ENDC/242). This is still before the Committee and, in the view of my delegation, offers the advantage, among others, of embodying provisions relating to nuclear explosions for peaceful purposes and making special reference to the international agreements which, by article V of the Treaty on the Non-Proliferation of Nuclear Weapons (ENDC/226*), should be in course of active negotiation. This is a subject in which, I would remind the Committee in passing, the Mexican delegation has from the very outset expressed its special interest, as I have already had occasion to point out in my statement of 13 August 1970 (CCD/PV.487, paras.65-69), quoting the main documents illustrating our position.

52. However, the impasse in which we find ourselves is still the same as that which existed when the Eighteen-Nation Committee on Disarmament established, shortly after it began its work, a sub-committee composed of the United States, the United Kingdom and the Soviet Union, to which the question of the suspension of nuclear-weapon tests was specifically entrusted. The prolonged stagnation which we so much deplore is due essentially to the fact that neither the position of the United States, that on-site inspections are necessary, nor that of the Soviet Union, which maintains that the use of national means of detection is sufficient, has undergone any appreciable change.

53. My delegation -- and I believe that our attitude is probably shared by many other delegations -- would have no objection to provision in the treaty banning underground nuclear-weapon tests for a reasonable minimum number of on-site inspections. We believe that, if the procedure were surrounded by sufficient safeguards to prevent its objective from being distorted, there would be no risk of its abuse for purposes other than those of strengthening confidence and making verification more effective.

54. On the other hand we must say with the same frankness -- and, as in the previous case, we believe that a considerable number of delegations think as we do -- that, taking into account the astonishing progress achieved both in the detection and identification of underground nuclear-weapon tests and in satellite photography, it does not appear that the conclusion of a treaty based exclusively on national means of detection would entail the danger that any of the nuclear Powers could carry out clandestine tests on a scale capable of affecting the strategic balance. Our opinion is founded partly on the recent declaration, to which several representatives have already referred in their statements, of Mr. William C. Foster, whom we have met here and whose experience, objectivity and considered judgement enable us to appreciate his declarations at their full worth.

55. From a purely pragmatic point of view, however, we must acknowledge that that eclecticism of our delegation, even if shared by the majority of the members of the Committee, would certainly not prevail on either of the two super-Powers to accept the point of view of the other, regardless of the reasons for their respective attitudes, although these sometimes seem to us as unfathomable as, according to the poet, are the ways of the Lord. A realistic analysis of the situation consequently compels us to conclude that, if we wish to break the vicious circle in which we have remained for so many years, we must endeavour to devise a true compromise formula which will enable each super-Power to move forward over half the ground that must be covered in order to reach the goal which the General Assembly sets for us year after year.

56. With this idea in mind my delegation has been examining during the last few weeks the many volumes containing the verbatim records and other documents of the Committee. As a result of that study we have arrived at the conclusion that, from among all the proposals presented formally or informally during the 503 meetings already held by this negotiating body, the one which it would perhaps be most worth while to consider anew with particular attention is that generally known as the proposal of the "black boxes", the name customarily given from the very beginning to automatic seismic stations.

86. I should like to turn now to the question of the extent to which the two draft conventions deal with weapons and agents. I have already referred to the importance that both we and the Soviet Union attach to the reservations to the Geneva Protocol; and I have indicated why the Soviet draft does not affect those reservations. This I think also explains why the draft of the Soviet Union and its allies deals only with weapons, and not with agents that could with relative ease be stockpiled, assembled and delivered as weapons. For States wishing to insure themselves credibly against a possible chemical-weapon attack these are understandable precautions.

87. But let us not delude ourselves that this amounts to the abolition of the means to wage this form of warfare. A "weapon" is the terminal stage of a process of production. By banning "weapons" one bans only the end product; one does not ban the process leading up to that final stage. It would therefore be feasible to produce chemical and biological weapons up to one stage short of the final "weapons" stage and still remain within the terms of the prohibition in a convention prohibiting production and possession of chemical and biological "weapons". In other words, a draft chemical and biological weapons convention on the lines proposed by the Soviet Union and its allies could result in a situation little different from that existing now in material terms, but far less stable in military-political terms, because it would be far more uncertain.

88. The situation would indeed be doubly uncertain. Not only would there be uncertainty because the convention did not cover the agents which could be used for the manufacture of weapons; there would also be the uncertainty arising from doubts whether the verification procedures prescribed by the convention would be effective enough to ensure that its provisions were observed. Earlier I described the similarity of views expressed by the Soviet, United States, and United Kingdom delegations on the inadequacy or impracticability of verification procedures properly speaking such as have been so far suggested for chemical weapons. Although these three delegations are agreed that there do not at present exist any adequate or practicable methods of verifying a prohibition of the development, production and stockpiling of chemical weapons, they have drawn opposite conclusions from this fact.

89. The Soviet Union and its allies propose that this Committee should recommend the world to accept a convention banning both biological and chemical weapons without proper verification. The United States and United Kingdom conclude that we should formalize without further delay a total prohibition of biological weapons with the limited verification procedures required for this type of weapon, but that, in view of the nature of the threat posed by chemical weapons, we should pledge ourselves to work for effective verification procedures which would give confidence in a prohibition of chemical weapons.

90. Such verification procedures would of course include both national and international measures, as called for in last year's General Assembly resolution 2662 (XXV) (CCD/318). Several representatives have suggested various national measures; but these have not in themselves appeared very convincing. So far we have heard little of international measures of a preventive nature. Yet it is surely international procedures which are needed to give the international community the necessary confidence that the provisions of any convention covering chemical warfare are being observed. Unlike some delegations, we do not despair of the eventual prospects for chemical weapons. But it is, I think, common ground among delegations here that a comprehensive ban on biological weapons is not dependent on verification in the usual sense of the word.

91. My colleagues will, I think, have noticed from my remarks so far that I have already answered the first two questions posed by the representative of Sweden, Mrs. Myrdal, in her speech on 9 March (CCD/PV.499, para.38). I have explained why the United Kingdom

delegation cannot accept the basic premise on which the Swedish questions are founded: namely, that there is an innate link between chemical and biological weapons. I have explained why we do not agree that a ban on "use" of biological weapons should be excluded from any further international instrument on these weapons, and why we consider it every bit as important to deal with agents as with weapons. Perhaps I might add that one of the most effective parts of our own draft convention, the more important part of the complaints procedure, is directed to the question of "use".

92. With regard to Mrs. Myrdal's third and fourth questions, we would certainly agree that any ban covering what she called "super-toxic" chemicals should include particularly severe measures of control. Other chemical-warfare agents, however, contain very serious threats: for example, long-term incapacitating agents, which would fall into her category (b).

93. As to verification, I really cannot see how the Swedish proposals for their category (a) agents can be called international control, since they depend for their whole effect on the information provided from wholly unverified national reporting. What value at all is there in allowing for possible on-site inspection at the invitation of the reporting party, or even obligatory inspection, when these procedures only arise if the reporting State itself confesses to exceeding the prescribed limit? The Swedish paper (CCD/322) provides for possible on-site inspection if there is suspicion of undeclared production in excess of one kilogram. You, Mr. Chairman, on 18 March (CCD/PV.502, paras.63 et seq.) gave us the results of United States research, which showed the virtual impossibility of detecting by purely national means amounts as large as 10,000 tons.

94. In short — and I am sorry to have to put it so bluntly — the Swedish proposals simply do not seem to us to match the helpful criteria put forward last year by the Yugoslav delegation in its working paper CCD/302. The first of these criteria was that verification "should be effective to the point of leaving no possibility for secret violation of the treaty of major significance." For chemical weapons it is clear that, as the representative of Canada, Mr. Ignatieff, pointed out on 25 February, until we know what verification procedures there are that are effective and available to us, we do not know what categories of weapons we can ban, or how comprehensive a ban we can negotiate (CCD/PV.496, para.50).

CCD/PV.505 pp.15-16

USSR/Roshchin

30.3.71 CBW

33. The draft convention contains provisions designed to ensure its implementation by States parties. Articles IV, V, VI and VII of the draft provide for a system of guarantees in order to make the agreement a viable and effective instrument. For guarantee purposes both national and international verification procedures are used. That is a combination which, as many delegations have recognized, is practically the most appropriate in the case of the prohibition of chemical and bacteriological weapons. Thus articles IV and V define national forms of verification. They make States parties to the convention internationally responsible for compliance with its provisions and bind them to take the necessary legislative and administrative measures to prohibit the development, production and stockpiling of bacteriological weapons and toxins as well as their means of delivery.

34. On the other hand, articles VI and VII provide for forms of guarantees based on international procedures. Thus, under article VI States parties undertake to consult one another and to co-operate in solving any problems which may arise in the application of the provisions of the convention. Under article VII any State party which finds that actions of any other State part constitute a breach of the obligations assumed under the provisions of the convention may lodge a complaint with the Security Council of the

United Nations, and undertakes to co-operate in carrying out any investigations which the Security Council may undertake in virtue of the provisions of the United Nations Charter.

35. The system of guarantees provided for in the draft convention is reinforced by the provisions of article XII, which stipulate that five years after the entry into force of the convention a conference of States parties shall be held in order to review the operation of the convention and to ensure that its provisions are being implemented.

CCD/PV.507 pp.9-10

Canada/Ignatieff

6.4.71 CTB

16. In what ways could we move forward? I made some suggestions in summary form in my statement of 25 February (CCD/PV.496, paras.36-39). I should like to elaborate on this occasion on the kind of transitional restraints -- and I emphasize the word "transitional" -- which we believe could and should be examined thoroughly by this Committee with a view to augmenting and strengthening the partial test ban, pending the achievement of our goal -- a comprehensive test ban. Those transitional measures are illustrative and clearly do not begin to exhaust all possible restraints and their combinations and variations.

17. First, the nuclear-weapon Powers signatories to the Moscow partial test-ban Treaty could report in advance their annual testing programmes to be conducted underground. That public information might include details regarding the timing, location and magnitude of all underground tests. This could offer a basis for testing the efficacy of the various techniques for detection and identification of underground nuclear tests as they now exist or as they may be improved upon in the future. An additional advantage of such a procedure might be that, for the first time, all countries could be provided with a basis for judging whether or not in fact the signatories to the partial test-ban Treaty were indeed adhering to agreed restraints to protect the ecological environment.

18. Second, these annual testing programmes, in addition to being reported, could be planned on a diminishing scale. Thus the nuclear Powers signatories to the partial test-ban Treaty could undertake to phase out progressively tests above an agreed seismological verification capability level, starting with high-yield tests and working down the magnitude/yield scale.

19. Third, such restrictions on the size of tests could also descend, as I suggested in my statement of 25 February, pari passu with improvements in seismological verification capabilities.

20. Fourth, in line with the growing public concern about the protection of our ecological environment, precautions required by the partial test-ban Treaty against radiological hazards through venting into the atmosphere or into the seas could be strengthened; and provision might be made to guard as well against other conceivable environmental hazards, such as earth disturbances or tsunamis, that is, seismic sea waves.

21. Fifth, there could be a commitment, particularly on the part of the major testing Powers, to work together in promoting international co-operation and in the development and improvement of facilities for the detection, location and identification of underground nuclear tests by seismological means, as called for in United Nations General Assembly resolution 2663 A (XXV). Such co-operation could be facilitated if there were advance information regarding annual test programmes, and if the reporting were supplemented by an undertaking to make available immediately, or with the minimum of delay, seismological information requested by other countries.

55. Almost eight years have passed since the Moscow Treaty banning nuclear weapon tests in the atmosphere, in outer space, and under water (ENDC/100/Rev.1) was signed in 1963. The conclusion of that international instrument, as is generally acknowledged, had a positive impact on the political situation in the world, helped to slow the nuclear arms race, considerably reduced the danger of the contamination of outer space, the atmosphere and the waters of the seas and oceans of our planet by radioactive substances, and created at the same time favourable prerequisites for subsequent steps in the field of arms limitation and disarmament. And in that regard we cannot in any way minimize the importance of that international instrument even in the form in which it was concluded in 1963.

56. One cannot, however, ignore the fact that the Treaty is a partial agreement, since it does not cover underground nuclear explosions. The question of the prohibition of underground nuclear tests is constantly in our minds. The preamble to the Moscow Treaty stipulates the determination of the States parties to continue negotiations "to achieve the discontinuance of all test explosions of nuclear weapons for all time". The Soviet side believes it to be extremely important to secure the cessation of all testing of nuclear weapons, including underground testing, by anyone, anywhere.

57. This problem has now acquired a considerable degree of urgency and the need for its solution is becoming ever more vital every year. The solution of the problem would be of great international significance, since it would facilitate the achievement of further measures of nuclear disarmament. The Soviet side believes that agreement in this regard can be reached on the basis of recognizing the adequacy of national means of detection for control over such a prohibition, and that there is no need to carry out on-site inspections. We are compelled to note, however, that for a number of years the representatives of the Western countries have been putting forward as an argument against the conclusion of a treaty banning underground nuclear explosions the difficulties of a technical nature connected with the implementation of control.

58. In our opinion that is not the real reason. We agree with those representatives who point out that the stumbling-block lies in the political field. Long experience of negotiations on disarmament questions shows that, when there is willingness to adopt the appropriate political decision, problems of a technical nature become of secondary importance and do not create insurmountable obstacles to the achievement of mutually-acceptable agreements. In advocating the cessation of underground nuclear tests the Soviet Union, like many other countries, is interested in reaching an agreement which will be strictly observed by all the participating States. Being prepared to rely upon the means of detection and identification of seismic events that are available to States today, the Soviet side would like to stress that in present conditions the probability of detecting any attempts to violate an agreement on the prohibition of tests is so great that no government would be able to carry out underground nuclear-weapon tests secretly, in evasion of an existing agreement.

59. During this session of the Committee a number of delegations have expressed views regarding different approaches to the solution of the problem of the discontinuance of underground nuclear tests. In particular the representative of the United Kingdom, Lord Lothian, speaking at the meeting of the Committee on 25 February, once again advocated the halting of test explosions above a certain threshold of magnitude, with control ensured by means of seismic stations and without on-site inspections (CCD/PV.496, para.15). That idea was supported by the representative of Canada, Mr. Ignatieff (*ibid.*, paras.40-42) and the representative of Japan, Mr. Tanaka (CCD/PV.497, para.41).

60. In this connexion the Soviet delegation deems it necessary to state its views on the matter. The idea of establishing a certain threshold of magnitude for the prohibition of

underground nuclear tests, while leaving States free to continue test explosions below that threshold, is based on the assumption that a proportion of such tests could not be identified with the help of national means of detection. The Soviet delegation cannot agree with that view. As we have already pointed out, the Soviet Union believes that in solving the problem of the prohibition of underground tests one should base oneself on recognition of the fact that the existing national means of detection are adequate for verifying the fulfilment of a corresponding agreement.

61. The prohibition of nuclear tests above a certain threshold would mean that all underground explosions below the established threshold would be outside the prohibition. That would in fact legalize a certain proportion of underground nuclear-weapon tests. Such an approach would hardly facilitate the solution of the problem of a comprehensive nuclear test ban. Thus the proposal for a partial cessation of underground nuclear tests -- that is, only those above a certain threshold of magnitude -- has a number of shortcomings that are bound to give rise to serious doubts about its suitability. We are inclined to share the view expressed in this connexion by the representative of Ethiopia, Mr. Imru, who stated that --

"We must be careful that the threshold approach does not lead us to the intractable situation that tests for the perfection of smaller tactical nuclear weapons could continue for a long time to come." (CCD/PV.498, para.8)

62. Much has been said here on the need to expand the international exchange of seismic data. In that connexion we should like to point out once again that the Soviet Union is already carrying out such co-operation on a large scale. If a treaty prohibiting underground nuclear tests on the basis of control over its fulfilment through national means of detection is concluded, the Soviet side will be prepared to participate in the fullest possible exchange of seismological data.

CCD/PV.508 pp.7-8

Mongolia/Banzar

15.4.71 CBW

10. The Mongolian delegation has noted with satisfaction that the new initiative of the socialist countries has met with favourable response not only on the part of the members of this Committee but also on the part of other States of the world. Since detailed statements have been made by the representatives of the Soviet Union (CCD/PV.505, paras.29 et seq.), Czechoslovakia (ibid., paras.51 et seq.) and Bulgaria (CCD/PV.506, paras.9 et seq.) on our joint draft convention on the prohibition of the development, production and stockpiling of bacteriological (biological) weapons and toxins and on their destruction, our delegation does not intend at this stage to go into any lengthy explanations of the contents of our draft convention. We shall confine ourselves to a few preliminary considerations of a general character.

11. The basic purpose of the draft convention we are proposing is to prohibit altogether bacteriological weapons and toxins and thereby to preclude any possibility of the use of such means of warfare. At the same time the draft convention affords its signatories an ample opportunity to co-operate in developing a peaceful biological industry and in using its achievements for peaceful purposes.

12. The draft convention also includes important provisions which duly guarantee the successful implementation of the convention. Our delegation, like many other members of the Committee, believes that the system of verification should, as stated in General Assembly resolution 2262 (XXV) --

"...be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure the effective implemen-

tation of the prohibition." (CCD/318)

Precisely these generally-accepted principles of control are provided for in the draft convention of the socialist countries. Besides articles VI and VII on international control measures, there is a special article, article V, which binds each State party to the convention to take as soon as possible, in accordance with its constitutional procedures, the necessary national measures for the implementation of the provisions of the convention.

13. Paragraph 2 of article XII of the draft convention also deals with the question of control. According to this paragraph, five years after the entry into force of the convention a conference of States parties shall be held to review how the purposes stated in the preamble and the provisions of the convention are being realized and how the convention is operating as a whole.

14. In our opinion, the combined provisions of those four articles of the draft convention constitute an adequate foundation for the establishment of effective control and create a favourable and generally-acceptable basis of the procedure for verifying the implementation of the provisions of the convention we are proposing.

CCD/PV.509 pp.7-8

Japan/Tanaka

15.4.71 CBW

9. The question of the promotion of international communications naturally involves the question of differences in the social systems of the States concerned. However, I should like to point out in this connexion that owing mainly to the question of environmental pollution, which is becoming more and more acute, the inevitable trend in the world community is towards the establishment of networks of data exchange, of the need for which all States, regardless of differences in their social systems, have become increasingly aware. Granted that the promotion of international exchange of information might not by itself contribute immediately to the verification of chemical weapons, nevertheless, as we put into practice international exchange of information regarding hazardous chemical substances, this would gradually and indirectly contribute to the solution of problems of verification of the prohibition of chemical weapons.

10. Prompted by the question of environmental pollution, Japan is now conducting an over-all fact-finding survey of its chemical industry. We hope that the results of this survey will provide us with some useful data in this regard.

11. The United Nations General Assembly resolution mentioned above states that verification should be based on a combination of appropriate national and international measures. In the field of disarmament or arms-control measures the concept of "self-discipline" or "self-controlled abeyance", no matter how desirable it may be, does not seem to constitute in itself a sufficient basis for concrete agreement unless safeguarded by effective international measures of verification. In this connexion the Treaty on the Non-Proliferation of Nuclear Weapons (ENDC/226) lays an obligation on non-nuclear-weapon States to accept safeguards by the International Atomic Energy Agency (IAEA) over their peaceful nuclear activities; and safeguard agreements are now being negotiated in the IAEA for the working-out of a concrete procedure for inspection.

12. In the field of disarmament measures there is the question of balance between the character of the things to be prohibited and the effectiveness of measures for the verification of such prohibition. Since chemical weapons are weapons of mass destruction, theoretically their prohibition should be accompanied by safeguards of the same degree of severity as in the case of nuclear weapons. However, in view of the fact that chemical weapons can be manufactured relatively easily in the chemical factories which exist in great numbers in all industrialized countries and that exact classification of their chemical components is difficult, we have to recognize that safeguards of the

same degree of severity as in the case of nuclear weapons are not practicable in the case of chemical weapons.

13. Accordingly my delegation has taken the position that, although the verification measures for the prohibition of chemical weapons would require the establishment of an international inspection team which, if it were felt necessary, would be entitled to have free access at all times to all plants having capabilities of manufacturing chemical weapons, we should have to rely on ad hoc inspections based on complaints procedures. In our view, international verification measures should correspond to the things to be prohibited and should be composed of a series of procedures covering both general procedures and procedures for specific cases of violation of the treaty. In more concrete terms, the procedure should start with a system of obligatory reporting to an international agency and be followed by an obligation to consult and co-operate, then by a fact-finding survey by the Secretary-General of the United Nations, assisted by an international panel of experts such as we suggested last year (CCD/PV.456, para.82), leading, in the case of doubts about particularly serious violations of treaty obligations, where no other means are available for removing such doubts, to an on-site inspection. These procedures should not be hampered by the existence of a veto in the Security Council.

CCD/PV.510 pp.6-7

UK/Lord Lothian

22.4.71 CBW

7. We should then be able the more easily to include two invaluable provisions of document CCD/255/Rev.2 which do not appear in document CCD/325/Rev.1. The first of those is the complaints procedure set out in article III 1 of CCD/255/Rev.2. I do not think it is an exaggeration to say that this is the most important deterrent against non-observance that has been put forward in any proposal on biological warfare. I realize that some delegations have found difficulty with the very direct reference to the Secretary-General; and, recalling the history of the Committee's negotiations on the sea-bed arms-control Treaty (General Assembly resolution 1660 (XXV), Annex; CCD/318), I would not wish to make the role of the Secretary-General an issue of principle.

8. However, under a procedure such as that in the United Kingdom draft there would be virtually automatic investigation of complaints by a party that biological methods of warfare including toxins had been used against it. The fact that such complaints would be investigated automatically, impartially and quickly, and a report submitted to Security Council, would be a major deterrent against production and stockpiling of biological weapons in contravention of a future ban, since the State concerned could not seriously hope that use of the prohibited agents would go undetected.

9. By the same token, I think that there would be value in including in any biological-warfare convention something on the lines of article IV of CCD/255/Rev.2. Under this, parties would confirm their intention to provide assistance to another party if the Security Council concluded that biological methods of warfare, including toxins, had been used against that party. This would be a further deterrent against use of the prohibited agents and, in consequence, a real deterrent against violation of a treaty prohibiting production and possession of biological weapons.

10. I look forward to hearing the views and comments of other delegations at an early stage so that we can quickly move forward to the tabling of a generally-acceptable text, to which it will not doubt be necessary to put some finishing touches before the Committee reports to the United Nations General Assembly. There will undoubtedly be much hard work to be done, and much careful drafting. I hope that perhaps, given the history of our earlier negotiations and the experience we have all derived from them, it may be possible to move rather quicker than in the past to an agreed solution. Members

of the Committee may consider that an informal meeting would be helpful either this session or next.

11. In the meantime, however, while the Committee is engaged in negotiating treaty language on a precise and viable draft convention on biological warfare, I very much hope that we none of us will lose sight of the other important objectives and tasks before the Committee. The need to achieve effective measures, carefully thought out and properly verified, in the field of chemical weapons is an obvious example. I am sure that members of the Committee will give due and favourable consideration to the suggestion repeated on 20 April (CCD/PV.509, paras.15, 16) by the representative of Japan, Mr. Tanaka, that we should consider having a series of informal meetings on chemical weapons next session. The United Kingdom delegation, for its part, would certainly try to enlist the assistance of an expert or experts for such meetings.

CCD/PV.510 pp.20-21

Brazil/Saraiva Guerreiro

22.4.71

CBW

55. With regard to the control provisions -- which in the present case are almost reduced to a complaints procedure -- it is quite proper that national and international measures should be combined to provide a mechanism that is really dependable under the circumstances of the prohibition. Paragraph 1 of article III of the United Kingdom draft convention (CCD/255/Rev.2) seems to be geared mainly to violations of the ban on the use of biological weapons. Having stated our views on the matter of the prohibition of their use, it appears to us that such a provision would in fact be a complement of the Geneva Protocol of 1925. In the case of breaches of the kind of prohibition we think the draft conventions now before us should incorporate, the complaints procedures could be channelled essentially through the Security Council of the United Nations. As I had the opportunity to say in my introductory speech, we believe that such recourse could lead to a procedure which would not, however, entail an immediate debate in the Security Council itself (CCD/PV.502, paras.94, 95). Because this direct approach could eventually generate rigidity and conflict before the matter was sufficiently probed, we hold that within the framework of the Security Council there should exist a preliminary fact-finding and informal negotiating group of members, which could do much useful work in preparing the ground for consideration of the matter by the Council as a whole, or in rendering such consideration unnecessary.

56. It is not altogether clear to us whether this recourse to a preliminary instance should be foreseen in the convention itself or whether its creation should be left entirely for the Council to decide. In point of fact the Brazilian Government is persuaded that the establishment of such flexible mechanisms should be considered in the Security Council as part of a general reappraisal of its activities. But the convention on biological weapons presents a very good opportunity to put this scheme into action, because of the undeniable value of a procedure capable of defusing such potentially-dangerous controversies as would be those deriving from a violation of the biological weapons convention. In any case we think that the matter deserves further attention by this Conference.

57. The draft convention in document CCD/325/Rev.1 contains provisions on co-operation for scientific exchange of information and assistance and, moreover, on the implementation of the convention in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention... (article X (2)). We regard this article X as constructive, especially since it is a long-standing position of the Government of Brazil that this general principle is indispensable to any disarmament agreement. We welcome its inclusion in this draft.

19. We should also like to explain the provision in the socialist countries' draft convention concerning the undertaking by each State party to be internationally responsible for compliance with the convention by its legal or physical persons (article IV). This undertaking is one of the important component parts of the system of guarantees to ensure the implementation of the convention. Any potential violator of the agreement would thus know in advance that in the event of his not complying with the terms of the convention he would be held responsible before the whole world community. That would have a restraining effect on potential violators and thus help to ensure the effectiveness and viability of the convention.

20. As to how the governments of the States parties would technically exercise control to ensure that no legal or physical persons of the States concerned were engaged in activities incompatible with the provisions of the convention, the solution of that question lies entirely within the competence of the aforesaid governments. Taking into account the constitutional procedures existing in their countries, they would themselves choose appropriate forms of control, as provided in article V of the draft convention.

21. Provision for that kind of control, to be exercised by States parties to an agreement over the observance of its provisions by legal and physical persons of the countries concerned, is to be found in other international agreements. Thus, for instance, article III of the non-proliferation Treaty (ENDC/226) in regard to its meaning and purpose is based on the premise that the governments of the States parties to the Treaty are entirely responsible for the activities of their legal and physical persons. The inclusion in the convention on bacteriological weapons of a clause on the international responsibility of the States parties for ensuring strict observance of its provisions by all their legal and physical persons would enhance the reliability of the agreement and thus complement in a natural way the other provisions of the agreement concerning the guarantees of its fulfilment.

22. In the opinion of our delegation, articles IV and V of the draft convention should be regarded as interrelated. The international responsibility resting upon the States parties to the convention on the prohibition of bacteriological weapons should be reflected in national legislative and administrative measures prohibiting the development, production and stockpiling of those weapons and of their means of delivery. Those measures should ensure the fulfilment by States parties of the obligations assumed under the convention.

23. The provision contained in article VII of the draft convention of the socialist countries concerning the complaints procedure in case of possible violations of the convention is one of the important international guarantees of the implementation of the terms of the agreement. A similar provision defining the complaints procedure is also to be found in article III of the sea-bed Treaty (General Assembly resolution 2660 (XXV), Annex; CCD/318).

24. The draft convention on biological weapons submitted by the United Kingdom (CCD/255/Rev.2) provides not only for the procedure of lodging a complaint with the Security Council but also for the procedure of lodging a complaint with the Secretary-General of the United Nations in the event of a violation of the convention. The question of such a procedure — that is, resort to the good offices of the Secretary-General — was raised when the Treaty prohibiting the emplacement of weapons of mass destruction on the sea-bed was being elaborated. We stated our position on this question at that time (CCD/PV.476, para.62-67). The complaints procedure proposed in the draft convention of the socialist countries, which provides that a complaint may be lodged directly with the Security Council of the United Nations, is most appropriate and practicable. Under the United Nations Charter, the Security Council is the body responsible for the maintenance of international peace and security. In accordance with its terms of

reference, the Council itself will determine how decisions adopted under article VII of the proposed convention are to be implemented.

CCD/PV.511 pp.15-19

Yugoslavia/Bozinovic

27.4.71 CBW

38. I should like now to turn to that important part of a prohibition of chemical weapons which would deal with measures of national and international control or verification. In trying to elaborate further on a system of verification we have taken as a point of departure those elements which we explained in the Conference of the Committee on Disarmament in our statement of 16 April 1970 (CCD/PV.465, paras.31 et seq.), and later in working paper CCD/302. In our working paper those measures were divided into two groups: national legislative measures of renunciation and self-control by each country; and measures of international control. The approach by way of a combination of national and international measures has been presented in the memorandum of the Group of Twelve Countries (CCD/310); and at the twenty-fifth session of the General Assembly of the United Nations it was accepted in resolution 2662 (XXV).

39. I should like to deal first with national measures of verification. Probably the first obligation of each State party to the convention should be to place under civilian administration or control — ministries of health or similar institutions — all installations in the field of the development, production and stockpiling of chemical agents which might be used directly or through additional processing for war purposes. We suggested this measure in our statement of 10 March 1970 (CCD/PV.456, para.35). Several delegations referred to this suggestion later in a positive sense.

40. I wish to emphasize once again the significance we attach to this measure. The purpose of such a step is to secure that, at the moment of the entry into force of the prohibition, no facilities mentioned in a convention would remain under military control. This would, we believe, render considerably more difficult any secret production of chemical weapons and chemical agents. In the civilian sector of life there cannot be such secrecy as in the military sector; and this will in a sense represent control by the people of a country.

41. The next measure should be the obligation of the States parties to make public relevant data on weapons, agents, ancillary equipment and vectors which are to be destroyed or converted, and on all installations in the territory under their jurisdiction which are used or which may be used for research on and development, production and stockpiling of chemical agents as defined in the convention, as well as on proving grounds. We do not believe that publication and evidence in that sense should present any serious difficulty. Exactly what data would be published would have to be agreed upon. We assume that these data need not be too numerous or unnecessarily detailed.

42. Still another national measure would be the obligation to report periodically to an international organ relevant data on the kind and quantity of chemical agents which would not be prohibited because of their civilian uses but which would have to be controlled because of their susceptibility to misuse. These data should also include export and import figures. It is obvious that this reporting would have to be done by a governmental agency competent in the field of statistics.

43. So far in the Conference of the Committee on Disarmament we have devoted some time and energy to the question of book-keeping, reporting and statistics. One of the important questions which has emerged in this connexion is related to the bases on which to choose the agents which are to be controlled. We have had several suggestions submitted by the delegations of Sweden (CCD/PV.457, paras.38 et seq.), Japan (CCD/301), Canada (CCD/300) and the Netherlands (CCD/320). However, we have not yet found a formula for the different types of agents which are to be controlled. The

degree of toxicity has been pointed to by several delegations, including our own. That obviously would not be sufficient as a criterion, as already noted; but this, we trust, given the help of experts, will not present an insoluble problem.

44. The next measure, still within the scope of national measures, would be an obligation on States to abolish any restrictions on the publication and international exchange of scientific information in the field of chemistry which is relevant to prohibition. May I recall that my delegation, as well as some other delegations, tried last year to explain the value of such a measure and its role in the system of verification? However, some pessimistic views also have been expressed in that connexion. Through further examination the value of this measure has, we believe, been proved.

45. All these measures would be enforced by national legislation or decisions of States. Depositary States should be informed of those national laws or decisions. Such data would make it easier for any State, if it so desired, to find out exactly what measures were undertaken and at what time by any other State. This practice would also help to build confidence among States parties. Of course, these national measures have to a certain extent an international character also. For instance, the submission of certain data to an international organ obviously has such a mixed character.

46. In our opinion those are the national measures of verification the role of which is to facilitate the implementation of and compliance with the prohibition of chemical weapons.

47. May I turn now to international measures of verification? First, there should be an obligation that all weapons, agents, ancillary equipment and vectors, as well as factories and other installations, which had to be either destroyed or converted to peaceful uses would be destroyed or converted under the supervision of an international commission. A similar idea was put forward by the Swedish delegation on 9 March (CCD/PV.499, para.26). The procedure for setting up the commission and the question of its precise mandate as well as other details, would have to be worked out. It is our belief that such a commission should be relatively small, that it would not have the task of verifying details, and that it would have to rely upon a great deal of official data supplied by the host government fulfilling the obligation and organizing the destruction or conversion.

48. The second international measure would be the establishment and functioning of an international organ which would receive and disseminate statistical data. When speaking of such an international organ last year we mentioned the possibility of creating a new organ or of making use of some of the existing ones, such as, for example, the World Health Organization. We believe that this idea has been gaining support in the Conference of the Committee on Disarmament. In connexion with such an organ I should like to express our belief that it should have the character of a technical rather than a political body and that its function should be restricted accordingly.

49. The third international measure which should be stipulated in a convention should be an obligation on States parties to enter into consultations with any party to the treaty with a view to clarifying the situation and removing doubts which might arise about the implementation of the treaty. A similar measure is foreseen in the recently-concluded sea-bed Treaty (General Assembly resolution 2660 (XXV), Annex; CCD/318). Needless to say, this obligation concerning consultation would offer many ways and possibilities for States parties to clarify some events or to offer satisfactory explanations or data, so that suspicion among States would not grow unduly.

50. The fourth international measure of verification would be the possibility of on-site inspection by invitation. We attach great significance to this measure. The invitation need not necessarily be made a formal obligation. We believe that if it had the character of a political responsibility of States it would weigh heavily upon any State, since the consequences of failing to provide satisfactory explanations in case of suspicion would always be of a serious political character. We take it that any State which might

initiate the procedure leading to an on-site inspection would also act with a high degree of political responsibility. In that connexion I would also reiterate our belief that it would be desirable to use the possibilities of fact-finding procedures, through the international organ which I mentioned earlier, as another means which might facilitate solutions without recourse to the Security Council, thus avoiding unwarranted political implications. Within this gradual procedure we envisage also the possibility for States harbouring suspicions to inform other parties to such a convention, thus increasing the pressure on the suspected party to accept such co-operation before the lodging of a complaint with the Security Council.

51. Those are the international measures which we wanted to indicate as possible component parts of a system of verification. A convention would, of course, contain a separate stipulation on a procedure for complaints to the Security Council based on the rights of States under the United Nations Charter.

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Netherlands/Bos

29.4.71 CTB

26. My delegation highly appreciates the efforts of the United Arab Republic and other members of this Committee to seek a constructive solution that might remove the impasse in the negotiations on a comprehensive test ban. Nevertheless, I should like to point out some difficulties which we have in embracing the idea of a threshold treaty, both in its pure form and in combination with a moratorium. I know, of course, that the threshold idea has been criticized before, notably by the delegations of the United States and the Soviet Union. I also know that the representative of the United Arab Republic himself, speaking in this Committee on 20 April, pointed to certain shortcomings and risks in the threshold approach (CCD/PV.509, paras.32 et seq.).

27. If we look back on the verification controversy, from which the threshold idea was born, we see that for a long time nearly all the attention was focused on seismic identification techniques, which is quite understandable since seismic observations will undoubtedly play a crucial role in the verification of a test-ban treaty. However, there are sometimes possibilities other than seismic for identifying underground nuclear explosions. Therefore one might argue that a test-ban treaty should not be framed on the basis of seismic identification techniques alone.

28. To clarify our view on this problem I might give some examples. As can be seen in figure 1 of our working paper (CCD/323), it seems that it will be possible in the future, by installing additional seismic monitoring instruments, to identify underground nuclear explosions of about 5-10 kilotons in hard rock. These explosions give a seismic signal of a magnitude of about 4.5-4.8. So one could envisage a treaty in which explosions giving a seismic signal above a magnitude somewhere in this range were forbidden. That means that in hard rock only explosions of 5-10 kilotons or smaller would be allowed.

29. However, in dry alluvium explosions of 50-100 kilotons could still be carried out without violating such a treaty, since the fixed threshold would not be exceeded. Such explosions would remain below the seismic identification level, but this does not mean that the other parties would never be aware of them; the explosions could probably be identified by other means, since such big explosions in dry soil would normally cause cratering of the surface. In theory, cratering could be avoided by having the explosions take place deep under the surface; but there are very few places in the world where one would still find dry alluvium at the required depth: that is, where one would still be above the water table.

30. Another example is the seismic decoupling of underground nuclear explosions in cavities. Although it is not clear up to what yields such explosions are technically and economically feasible, it seems that cavity explosions up to considerable yields are

possible without violating a threshold treaty because their seismic effects would not exceed the agreed threshold. Again, this does not imply that such explosions would go unnoticed; it would seem to us to be difficult to hide the extensive mining works necessary for making such cavities.

31. Thus, by concentrating on seismic detection methods alone, a threshold treaty of this type would disregard other means of verification. Even if other methods of verification -- for instance, observation from satellites, measurement of vented radioactive material, combinations of several seismic and other methods, and so on -- showed that underground nuclear explosions had been carried out, the threshold treaty would not necessarily have been violated. In other words, under the treaty the parties could openly and visibly continue to carry out nuclear tests for the purpose of weapons development. This could be a very saddening and frustrating state of affairs, threatening the viability of the treaty.

32. Another difficulty in connexion with a threshold treaty can be pointed out, as has been done before by others. It seems difficult to define a threshold exactly, considering the different geological and geographical possibilities, which could lead to all kinds of problems in the interpretation of seismological recordings. In the framework of a threshold test ban, nuclear Powers could be tempted to exploit the possibility of exploding nuclear weapons as near as possible to the threshold. This could easily lead to accusations by other parties; and such a situation would not seem favourable for the political climate.

33. One may say, of course, that the difficulties I have mentioned can be avoided by adopting the formula proposed in the past by the United Arab Republic and supported by several other States: that is, by combining the threshold treaty with a voluntary moratorium on explosions beneath the threshold. However, my delegation doubts whether this would be the appropriate solution in the present situation.

34. Among other things, we find it hard to see what exactly would be the relationship between the binding obligations under the treaty and the voluntary commitments under the moratorium, since the latter are made the condition for the former. What would happen if the moratorium were broken by one of the parties? Would other parties then be entitled to withdraw from their treaty obligations; or could they only renounce their moratorium commitments? In the first case, the practical effect would be resumption of underground tests of all kinds; in other words, the situation would be exactly as if the treaty itself had been violated. In the second case, the moratorium would be revoked and what was left would be a not entirely attractive threshold treaty.

35. Moreover, we should keep in mind that a moratorium is, by definition, a provisional or temporary measure. When the delegation of the United Arab Republic advanced its proposal in 1965, the underlying idea was to extend the partial test ban at any rate to such underground nuclear explosions as could be identified by national means, and to declare a moratorium in respect of the other explosions, in the expectation that, within a reasonable time, further scientific progress would make possible their inclusion in the official ban. It is true that since 1965 the development of seismological knowledge has made it possible to improve to some degree the existing capabilities of detection and identification. However, our experts advise us that the possibilities of such improvements are rather limited. They think that for a long time to come the seismic and other verification systems will not be able to detect and identify very small explosions. If, then, we cannot expect major changes in verification capabilities in the near future, my delegation sees no sufficient justification for having now a moratorium which is, by nature, only an interim measure. I may add that the representative of the United Arab Republic himself, in his recent intervention (CCD/PV.509, para.34), has already indicated that some of the assumptions underlying the 1965 proposal now no longer apply.

36. The conclusion from what I have said so far is that, as to the range of underground

tests to be covered by an international prohibition, we should at present head for a complete rather than for a partial solution. In this regard my delegation's position is, I think, very close to that of the delegation of Ethiopia as set forth on 4 March (CCD/PV.498, paras.6 et seq.), although the threshold approach should be kept in mind as a possible position to which to fall back. A really comprehensive test ban would overcome most of the objections to a threshold treaty which I have mentioned, and would be of great importance in affecting the arms race. Under a comprehensive test-ban treaty the possibility of using all available national means of verification, seismic and non-seismic, would itself constitute a considerable deterrent to would-be violators. If a nuclear Power wanted to evade its obligations without being discovered by the national means of other parties, it would have to be very careful, since there are so many uncertainties. In the first place, it would be difficult to know exactly what was covered by the national means of verification of other countries.

37. Then there are such questions as: will it be possible to avoid cratering? how effective is seismic decoupling? and so on. In the view of my delegation, with an effective extension of the seismic capabilities -- as suggested, for instance, in our working paper -- a would-be violator could only test nuclear weapons of a few kilotons or smaller without running the risk of being detected.

38. The question then arises: what additional assurances do parties need in order to agree to a comprehensive test ban? In this context we have to look into the possibility of on-site inspections. Many proposals have been made on this subject, in particular the idea of a fixed number of obligatory inspections, as put forward by the United States, and the scheme for "inspections by invitation" elaborated by Sweden (ENDC/242). I also wish to recall the very interesting suggestion advanced by the United Kingdom for the establishment of an international committee that would be entitled to carry out such inspections under certain conditions (ENDC/232).

39. My delegation is of the opinion that the possibility of on-site inspections could be helpful as an additional deterrent to would-be violators of a comprehensive test-ban treaty. At the same time we should realize that on-site inspections are not necessarily a panacea for all verification problems. On-site inspection only makes sense if an event within the territory of one party has been detected but not identified by other parties. It can therefore play no role if the event is not detected at all by other parties. For instance, when a small nuclear charge is fired in dry soil, perhaps no indication whatsoever of the event will reach the outside world. In such a case a State or international body having the right of on-site inspection would not know that it was an occasion for exercising its right. It would not even know where to go.

40. My delegation is in favour of adequate possibilities for verification of any measure of arms control or disarmament. It by no means wishes to exclude, a priori, the need for or the use of on-site inspections. But we have always to keep in mind that, with or without such inspections, there will never be one hundred per cent certainty that there is full compliance with a test-ban treaty. Therefore we must in any case ponder the question of what is more important: the banning of all tests, with a risk that small explosions could go on undetected, or the continuance of underground tests without restriction.

41. The crucial point is, of course, as has been aptly set out by the representative of Mexico, whether any of the nuclear-weapon Powers would be in a position to carry out clandestine tests on a scale capable of affecting the strategic balance (CCD/PV.504, para.54). Can explosions of a few kilotons or smaller really affect the strategic balance more than the continuing testing of all kinds of nuclear weapons? We have to recognize that the qualitative arms race which is now going on is a threat to peace and security. Against the background of this recognition a fair solution of the verification question has to be sought.

42. As my delegation has stated before in respect of the verification of the non-production of chemical-warfare agents, we think that in the case of a test ban also the verification should be based on a combination of appropriate national and international measures. For example, it would seem possible to arrange a seismic monitoring system on an international basis; but it does not seem feasible to internationalize verification methods like satellite observation. I shall not elaborate further on the verification question today; but I hope that I have at least contributed some elements that we have to take into consideration with regard to this question.

43. The last point I want to mention is the problem of nuclear explosions for peaceful purposes. Of course, this problem is under examination by the International Atomic Energy Agency (IAEA), mainly in regard to its technical and economic aspects but also in regard to other aspects, such as, for instance, international observation. The Agency is adequately equipped for those studies and is doing excellent work. However, we have to acknowledge that it is part of the task of this Committee to give thought to the arms-control aspects of the subject; for, if a treaty banning underground nuclear explosions is worked out, such a treaty will have to provide also for exceptions to be allowed for peaceful purposes. The precise conditions under which such exceptions would be allowed might either be stipulated in the test-ban treaty itself or laid down in an agreement to be negotiated separately, as proposed in article I, paragraph 3, of the Swedish draft treaty of 1 April 1969 (ENDC/242). Besides, this Committee is naturally interested in the implementation of article V of the non-proliferation Treaty, as this is the most important arms-control agreement in existence today.

44. In an arrangement concerning the carrying-out of peaceful nuclear explosions, a system needs to be developed so as to prevent explosions from being used for weapon testing under the guise of peaceful purposes. It has been suggested, therefore, that an international body should be authorized to satisfy itself that only tested nuclear devices were being used for peaceful nuclear explosions.

45. In this context I refer to a report published by the IAEA on 13 January, concerning international observation by the Agency of such explosions. This report, which appeared as document GOV/1433 and which was prepared by a group of experts convened by the Vienna Agency, proposes that in each case in which a peaceful nuclear explosion is to be carried out on behalf of a non-nuclear-weapon State an agreement will be concluded beforehand with the nuclear-weapon Power supplying the device. In this agreement certain characteristics of the device will be specified. This would make it unlikely that nuclear explosive devices of an untested type would be used. In the case of a comprehensive test-ban treaty, a similar verification procedure might be designed which would apply to peaceful explosions both on and outside the territories of the nuclear-weapon States.

46. Another way to handle this question is indicated in article 18, paragraphs 2 and 3, of the Treaty of Tlatelolco (ENDC/186, pp.12-33). The possibility might be explored of the procedures of this regional Treaty being worked out and applied on a world-wide scale.

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pp.20-21

Argentina/de La Guardia

29.4.71

CBW

57. Another provision whose scope and meaning my delegation does not fully understand, despite the explanations given by the Soviet representative, is that contained in article V of the draft. In fact we understand that -- and I quote Mr. Roshchin's words -- "Those measures should ensure the fulfilment by States parties of the obligations assumed under the convention." (*ibid.*, para.22) But inasmuch as under article I each State party "undertakes not to develop, produce, stockpile or otherwise acquire" the

elements then listed, and as under article II each State party undertakes to destroy them, it is unnecessary to lay down, as article V does, that —

"Each State Party to the convention undertakes to take as soon as possible, in accordance with its constitutional procedures, the necessary legislative and administrative measures..."

required to achieve such objectives. Either States parties are internationally responsible or they are not. If they are — and no one doubts that they are — the obligations they undertake by virtue of articles I and II are absolute and consequently include enactment of the national law necessary for the fulfilment of those obligations.

58. We said at the beginning that we should also be referring to certain omissions from the draft convention which we have noted. Thus Article VI provides for consultation and co-operation as a means of solving conflicts arising out of the convention's application, but does not establish an adequate verification procedure. For this reason my delegation does not believe that such means can achieve their aim. This, however, is a very troublesome subject because of its complexity; and my delegation would prefer to give its views on this point later, confining itself for the present to that one observation.

59. Similarly, in our view, another point in the draft which could be improved is contained in article VII, which repeats the basic idea of earlier proposals. The Italian representative referred to this question today, and I am happy to agree with him. The draft convention lays down that if the treaty is violated, a complaint may be lodged directly with the Security Council, whose procedure is regulated by political conditions of which we are all aware. If we compare that provision with article III of the United Kingdom draft convention (CCD/255/Rev.2), we see that this, in the same situation, entitles the State alleging aggression to lodge a complaint with the Secretary-General of the United Nations, who would order the proper investigation and submit a report to the Security Council. Direct recourse to the latter is provided in paragraph 2 of article III only when the procedure of paragraph 1 cannot be put into operation.

60. Of these two texts we must confess our preference for the latter, the United Kingdom draft convention, while fully understanding the difficulties that this view may raise for some delegations. Similarly, article IV of that same draft is valuable and we share the view of its draughtsman that its disappearance would be a regrettable loss.

CCD/PV.513

pp.8-9, 11-13

Sweden/Myrdal

4.5.71

CTB

14. There are two sets of reasons, of which one may be called political and one technical, why the Swedish Government has all along hesitated to support the threshold proposal. It would, in our view, be another half-measure, perhaps limiting arms development in some directions but leaving other directions open for so-called improvements of nuclear weapons. Also, if the threshold chosen were not rather low it would not even have the desired non-proliferation effect on non-nuclear-weapon States. The margin thus left open might be exploited by them to use plutonium from their own reactors to "go nuclear" in the weapons field also. These are the reasons why on political grounds we have not felt able to support the threshold solution.

15. When it has been suggested that it might be easier to reach agreement if the prohibition applied only to explosions above a certain strength or effect, the technical idea has been that this so-called threshold could be chosen so that identification techniques at present known would make confusions with earthquakes sufficiently rare to be negligible. It has also been suggested that the threshold could be lowered pari passu with future improvements in identification capabilities.

16. A minimum requirement, however, is that one should be able to determine beyond dispute whether an event lies below the threshold or not. As long as the nuclear explo-

sions claimed to be below the threshold are not open to international observers -- a procedure foreseen for peaceful nuclear explosions under the non-proliferation Treaty (ENDC/226) --, so long non-violation of the threshold will most probably have to be monitored by observations from a distance, by measuring the seismic magnitudes of the explosions. I have been warned, however, that the proper comparison between magnitudes obtained by seismographs in different locations is a general problem within seismology which appears to be far from a satisfactory solution.

17. A ban on tests above a certain threshold, therefore, would require agreement on a reference station or a network of reference stations, sensitive and reliable enough. Such a station or stations would have to be well calibrated in relation to relevant test areas. This would amount practically to a requirement for an undertaking by the nuclear-weapon Powers to conduct the explosions permitted below a given threshold only in certain well-calibrated test areas. They would themselves need to be very accurately informed as to the expected seismic magnitudes, in order not to risk laying themselves open to accusation.

18. Such would be the situation if the agreed threshold were to be defined in terms of seismic magnitudes. If the threshold were instead defined in terms of nuclear explosion energy or yield, and no on-site observers were allowed, the additional problem of relating yield to magnitude would complicate matters considerably. Other problems, for instance in connexion with testing in alluvium or by means of decoupling, have been pointed out in the excellent analysis by the delegation of the Netherlands (CCD/PV.512, paras.29 et seq.). The threshold concept would thus introduce serious technical problems which an all-out ban wholly avoids. Even if we could agree on a treaty text solving these problems, much controversy could still be foreseen in the subsequent operation of a threshold treaty.

19. Consequently, both on political and on technical grounds the Swedish delegation continues to doubt that a threshold concept could be of any help towards reaching a test-ban treaty. We shall be glad, however, to continue to discuss these and other technical problems in more detail. We strongly support the Canadian proposal to hold technical discussions this summer (CCD/PV.507, para.7). We are prepared to take part in these on an expert level, and look forward to learning about the latest scientific efforts in other countries, including all the nuclear-weapon members of the Committee. They are, after all, the most knowledgeable.

25. Turning now to the verification issue, as distinct from threshold and other problems of scope, I want to say first that the Canadian proposal which I have just mentioned on notification of explosions, along with their essential parameters, would be of great assistance for the solving of remaining identification problems, especially if extended also to past explosions. Here the nuclear-weapon States have an opportunity to make a large contribution to the further improvement of identification methods, and at no extra cost.

26. In the same statement the Canadian representative again asked for international co-operation in the development and improvement of facilities for detection, location and identification of underground nuclear tests by seismological means. Similar recommendations were made in earlier statements by the representatives of the United Kingdom (CCD/PV.496, para.16) and of Japan (CCD/PV.497, para.43). The Netherlands delegation has advocated such improvements as worth while in a working paper (CCD/323) which provides us with a valuable technical discussion of the detection and identification issue. The Swedish delegation certainly supports these recommendations, so close to what we have been suggesting since that time back in 1965 when we urged the formation of a "detection club" as an alternative to an official international scientific commission (ENDC/154).

27. The representative of Mexico has reminded us (CCD/PV.504, paras.56 et seq.) -- and the reminder is very timely, I think -- that it was once considered politically acceptable to use so-called "black boxes" to assist in seismological verification. The Japanese delegation has also underlined the usefulness of such means (CCD/PV.497, para.44). The idea of "black boxes" was originally introduced in this Committee back in 1962 (ENDC/66). In our context, a "black box" is an unmanned and automatic seismic station for supplying close-in seismic data about seismic events in the host country. Such an arrangement could be instrumental in solving the practical problem of identification of weak events. The method of identification by comparison between so-called body and surface waves has been shown to be very effective with not-too-weak events at long distances. With data from suitably equipped and located "black boxes" the aforementioned method should make it possible to deal effectively also with weak events and thus eliminate some remaining apprehensions in regard to the control issue. We therefore join the representative of Mexico in his question to the Soviet Union and the United States about their attitude today towards the use of "black boxes" (CCD/PV.504, paras.62, 63).

28. Such "black boxes" might perhaps give rise to questions about territorial intrusion. My delegation proposed earlier a different arrangement, using standardized seismograph stations in national networks, with agreed norms for operational performance and data accessibility. Such a network of national stations would constitute a particularly efficient basis for seismic data exchange, delivering the same kind of but more extensive measurements than a few "black boxes". The credibility of such data would rest, of course, on the professional integrity and reputation of the scientific institutes managing the stations.

29. We have -- together with the non-aligned members of the Conference of the Committee on Disarmament -- for a long time advocated as useful an international seismic data exchange, and are content to have found renewed support during this session from the United Kingdom (CCD/PV.496, para.16), the Japanese (CCD/PV.497, para.43), the Nigerian (CCD/PV.504, para.14), the Canadian (CCD/PV.507, para.21) and the Netherlands (CCD/PV.512, para.19) delegations. The Soviet Union recently pronounced its support for this measure on the condition that a ban on underground tests was achieved (CCD/PV.507, para.62). The representative of the United Arab Republic stressed (CCD/PV.509, para.35) the importance of guaranteeing to all countries -- including those with limited, if any, seismological resources of their own -- access to an open exchange of seismic data through co-operation. He also recommended that the procedure in case of suspicious events should include some form of verification by challenge, recourse to the Security Council, a review conference and a withdrawal clause (ibid., para.36). Our working paper contains this same sequence except for the review conference, which suggestion we endorse as a very valuable addition.

30. In facing the problem of the apparently still existing demand from some delegations for obligatory on-site inspection, the representative of Ethiopia suggested (CCD/PV.498, para.9) that at least one on-site inspection per year might be accepted as a confidence-building undertaking. The Swedish delegation is quite convinced that, with the present state of the art, sufficient deterrence against cheating can be obtained without obligatory on-site inspections. We feel that, as suggested in our working paper, inspection by invitation "to be carried out in the manner prescribed by the inviting Party" (ENDC/242, art.II, 3(b)) is sufficient.

31. Naturally we would have nothing against an agreement on some rate of obligatory on-site inspections if that turned out to be politically acceptable to the nuclear-weapon Powers. But progress in several domains is certainly moving in such a direction that the importance once attached to on-site inspections is diminishing. The effectiveness of other means of surveillance, not least the satellites, has been greatly increased. We find a clear signal that the wind of change is going against the claim for obligatory on-site

inspection in statements made recently by our highly-respected former co-Chairman, Mr. William Foster.

32. To conclude, it has now become evident that the technical aspects of the verification issue should not be the same obstacle as they were in 1963. The decisive considerations are military and political, and the controversy on control will be dissipated the day the nuclear-weapon Powers become politically ready to accede to the ardent appeal from the rest of the world that nuclear testing should stop.

33. In connexion with the verification issue I could touch upon the possibility of sometimes ascertaining whether nuclear explosions have occurred by measuring increases in the radioactivity of the atmosphere. I raise this point, however, more in order to demonstrate an imperfection in the present fulfilment of obligations under the Moscow Treaty. As our Canadian colleague pointed out in his very thought-provoking statement on 6 April, there is today growing public concern over the increasing frequency of radioactive leakages from underground tests, also beyond and across national borders; and concern also over other potential environmental risks connected with high-yield tests (CCD/PV.507, para.10).

34. My country has on several occasions observed and measured radioactive debris within our borders. Investigations clearly show their origin to be in nuclear-weapon tests, sometimes in the east and sometimes in the west. Although Sweden has experienced at times a threefold increase in the degree of radioactivity, the levels have not constituted a health hazard. I take it for granted that those technical violations of the Moscow Treaty were the result of miscalculation. Nevertheless, they weaken the integrity of the Treaty. It is therefore our duty to react and to notify the Governments concerned, and this we have done.

CCD/PV.516 pp.12-13

USA/Leonard

13.5.71 CTB, C-O

30. The question of a ban on underground nuclear tests has received a good deal of attention during the present session. Many delegations have presented thoughtful comments and specific suggestions, including the delegations of Canada (CCD/PV.496, 507, 515), Japan (CCD/PV.497), Mexico (CCD/PV.495, 502, 504, 512), the Netherlands (CCD/PV.502, 512), Sweden (CCD/PV.497, 507, 513), and others. There will be much to discuss when the Committee reconvenes, and the United States delegation will participate fully in these discussions in our summer session.

31. With regard to the question of verification of a comprehensive test ban, the United States position has not changed. The United States continues to believe that adequate verification requires on-site inspection. The field of seismology deserves continued study programme of research in this area.

32. Recently Dr. Eric Willis, the Director of the Nuclear Monitoring Research Office of our Advanced Research Projects Agency, described this programme in a briefing here in Geneva, which many of you heard. As Dr. Willis made clear, two of the most promising developments -- the installation of two new large seismic arrays and the research made possible by new and more sensitive instruments for the study of long-period seismic waves -- are still at an early stage. Dr. Willis also reviewed while here the status of the current technology, and indicated that under current circumstances the differentiation between naturally-occurring seismic events and nuclear explosions remains an unsolved problem in some cases. It is not possible to say how much future developments in the field of seismic research will improve our present capabilities; but we are hopeful that our common understanding of the verification issue can be substantially advanced. We intend, meanwhile, to participate actively in the Committee's examination of the current state of the art.

33. Other nuclear arms-control measures which have been given some attention in the Committee this session are a cut-off of the production of fissionable materials for weapons purposes and the creation of nuclear-free zones. The United States has been particularly gratified by the expressions of support for its cut-off proposal (ENDC/120, p.2). It has been argued in the past that the cut-off would be an illusory measure given the quantities of fissionable material already accumulated. It seems to me quite plain, however, that the more fissionable material produced, the greater will be the difficulty of establishing controls over it. Implementation of the United States suggestion, which would involve placing a limit on the size of stocks of nuclear-weapons material, could become truly significant over the long run, if not immediately, as a brake on the nuclear arms race. The adoption of International Atomic Energy Agency (IAEA) inspection for the cut-off would also be a step towards establishing a more universal system of safeguards on fissionable-material production.

CCD/PV.522 pp.10-12

Nigeria/Sokoya

20.7.71 CBW

19. On the question of control, my delegation will be fully prepared to support any provision favourably and adequately combining national and international measures the mechanism of which will be not only really dependable but readily acceptable. Articles IV and V of the socialist draft therefore appeal to us, provided that any legal intricacies that may be inherent in their present formulation are adequately resolved. Article VI, on the other hand, poses a big problem, since relations between States may sometimes be of such a nature that the application of the type of consultation and co-operation now envisaged would become practically impossible. On this question we are in full agreement with the views expressed by the delegation of the United Arab Republic (CCD/PV.516).

20. Regarding the complaint procedure in case of breach, as now formulated in the two drafts, the procedure contained in article III of the United Kingdom draft, I will say, seems to make a greater appeal to my delegation. It is generally felt that, as long as each of the permanent members of the Security Council retains its veto power, there remains the danger that that power might be used in certain circumstances to delay or prevent investigation. The United Kingdom draft seems better to ensure an automatic and impartial investigation of the use of biological methods of warfare and toxins without any danger of delay.

21. The Nigerian delegation welcomes the inclusion in any convention on bacteriological (biological) warfare of the provision contained in article IV of the United Kingdom draft whereby parties would confirm their intention to provide assistance to any proven victim of the use of biological methods of warfare, including toxins. While this provision underlines the need for international co-operation and assistance generally, it will serve, as has been rightly pointed out by the United Kingdom delegation (CCD/PV.510, para.9), not only as a further deterrent against the use of the prohibited agents but also as a consequential deterrent against violation of a treaty prohibiting production and possession of biological weapons.

22. Having particular regard to various world experiences in the field of international assistance, however, my delegation would like to seek further clarification of the use of the words "appropriate assistance" in the article. Beyond what limit should "appropriate" begin to be considered "inappropriate"? The use of that word, therefore, without any adequate clarification of its actual meaning, is likely to raise some problems in the future on the issue of interpretation. The United Kingdom delegation might at this negotiating stage consider giving us the benefit of its own background sense of this provision.

23. Article X of the socialist draft, which contains an important provision for co-operation on the exchange of scientific and technological information for the development of peaceful uses of biological agents and toxins, is most welcomed by the Nigerian delegation. The provision on the implementation of the convention in a manner designed to avoid hampering the economic and technological development of States parties to the convention is thoughtful and acceptable. In that connexion I should like to associate my delegation with the Yugoslav delegation in re-echoing and reaffirming the praiseworthy principle of the United Nations according to which savings from disarmament should be channelled to social and economic development, with particular consideration for the requirements of developing countries (CCD/PV.519, para.43).

24. On the question of terminology, my delegation would like to see the contradictions inherent in the use of the words "weapons" and "agents" in the socialist draft appropriately eliminated, since uniformity and consistency in terminology is a sure means of obviating any future doubts and uncertainties in the interpretation of the convention. In this connexion also it is the considered opinion of my delegation that, for the same reasons, a clear and more precise descriptive interpretation of the word "toxins" is essential at this negotiating stage. We leave it to those delegations which possess the scientific and technological competence to delve into this.

25. In order to eliminate completely the dangers inherent in biological weapons and toxins, the destruction of existing stockpiles is a first essential. Article II of the socialist draft contains some positive elements in this regard. While we fully agree that a time limit for the destruction of existing stockpiles should be clearly specified in the convention, we are of the opinion that adequate consideration should first be given in this Committee to the actual feasibility of any deadline that might be proposed. There are countries represented in the Committee which have unilaterally renounced the acquisition and use of those weapons. We can readily draw on their various experiences. Moreover, we are curious, like our colleagues of the United Arab Republic (CCD/PV.516, para.18) about the actual procedure by which it is intended that the destruction of these dangerous weapons is to be carried out.

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Sweden/Myrdal

20.7.71 CBW

43. The second issue on which the testimony of experts has been quite helpful is that of verification. Scrutinizing their summing-up of the state of that art in relating to control of the production, et cetera, of chemical and biological weapons this year and last, I am afraid we must draw the major conclusion that waiting for technical methods to improve remote control in any decisively new way would mean waiting in vain. Not only will a perfect or nearly perfect verification system, as often in the disarmament fields, remain for ever unattainable, but any kind of significant breakthrough in relation to technical methods of remote control — for instance, by monitoring through sensors mounted in satellites or through economic statistics on flow of substances, et cetera — seems improbable, according to several of the working papers submitted at our recent informal meeting and earlier. May I remind the Committee that Sir Solly Zuckerman evaluated this in a drastic way last year when he said that there was no justification for political leaders to hide behind the scientists?

44. The situation with regard to on-site control offers, technically speaking, greater, even quite promising, opportunities. But here the political inacceptability is probably a real obstacle, as the development, production and stockpiling of chemical and biological weapons are so often locked up and made invisible within military bounds. We face a seemingly insoluble dilemma: what is technically most promising is politically least feasible.

45. It should not be overlooked, of course, that the possibility of some access would automatically lower the level of apprehension generated by lack of knowledge and thus also lower the requirements for the level of control. In the field of nuclear energy and the production of nuclear-weapon material we have witnessed a gradual increase of access, now embodied in the International Atomic Energy Agency (IAEA) inspection system, concurrently with a gradual decrease of apprehension and suspicion. I will not propose an "IAEA" for chemical industries; but I believe the analogy merits some attention.

46. There are at least two practical conclusions which we are forced to draw from such statements concerning facts and potentials as those which I have summarized today.

47. One is that all weapons and agents of relevance to a chemical and bacteriological (biological) warfare prohibition share in fairly equal degrees this pessimistic verdict of belonging to a state of near unverifiability if access is not allowed. It certainly does not apply to chemical agents alone; it is also true of biological agents and toxins, although to varying degrees as between different substances. The same applies, of course, to all weaponized chemical and bacteriological (biological) warfare components within military arsenals. Thus separate treatment of biological and chemical weapons, or of biological toxins and toxins synthetically produced, is not warranted by the argument of verifiability.

48. Secondly, a realistic expectation of arriving at an agreement on chemical weapons cannot be made contingent upon any significant future improvement of the possibilities for verification from the outside: that would leave the time dimension open with, I am afraid, no end in sight.

49. Consequently the decision to prohibit the production of any weapon in the chemical and biological field will be as predominantly political in motivation as is now the decision on the part of the two blocs to settle on a prohibition of biological weapons and toxins, and as political as is also the readiness to forge explicit verification requirements for these categories. However, for some countries which have already unilaterally renounced — without any reservation, in the case of my country — the use as well as the acquisition of the weapons in question, the very opportunity to participate in control activities would add an element of interest to them.

50. This recognition of the similarity in verification possibilities over the whole field of chemical and bacteriological (biological) warfare has led the Swedish delegation, and I believe many others, to treat verification for all categories jointly and by less perfect means. As it is expressed in the memorandum of the twelve:

"The issue of verification is important in the field of chemical and bacteriological (biological) weapons... Verification should be based on a combination of appropriate national and international measures..."

(CCD/310, para.7)

This also seems to be foreseen, or at least possible, under the consultation and co-operation formulae of the drafts hitherto presented to us; although some differences of opinion have been expressed about the international elements thereof, as well as about the exact wording. As was the case with the first question I raised today, on the definitions of the scope of a partial agreement, I must state that clarity is desired also concerning the meaning of the verification provisions. Such clarity could be obtained by spelling out in proper treaty language the principle of verification by challenge, and by including "appropriate international procedures within the framework of the United Nations and in accordance with its Charter" (General Assembly resolution 2660 (XXV), Annex, Art.III 5, CCD/318), as contained in our latest agreement, the sea-bed Treaty.

51. A control system of this kind, which would be made gradually more effective through national legislation, open documentation and international reporting to some appropriate body or bodies, would of course be applicable to the whole field of biologi-

cal weapons, toxins and other chemical weapons. Therefore, also with regard to verification, the Swedish delegation continues to consider it an open question how far into the chemical-warfare field what I would like to call a first convention on the development, production and stockpiling of biological and chemical weapons should go.

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Sweden/Myrdal

27.7.71

CTB

15. As I have just mentioned, we did not want to change the article on verification in the Swedish draft treaty text on an underground test ban (ENDC/242). We remain convinced that the verification-by-challenge model, permitting a step-wise, more and more rigorous sequence of inquiries and exchanges of information, and allowing also for some inspection when agreed upon as part of the challenge, would give sufficient assurance. It is primarily based on verification by "national means only", that is, remote control; although it is expected to be improved upon by international co-operation and procedures, particularly in regard to seismological data exchange. It is, finally, enforced through the now generally-accepted complaints procedure of recourse to the Security Council of the United Nations.

16. The viability of a verification procedure by challenge, using seismological methods as a vantage ground, is dependent on three technical conditions. The first and most important is that a sufficiently high deterrence from violations can be established. This is envisaged to be primarily dependent on the ability to identify nuclear explosions from a distance with a sufficiently high probability. A second and corollary condition is that the expected rate of false alarms about earthquakes -- in other words, the risk of making an unjustified challenge -- should be so low as to be negligible. The third condition is that these capabilities to exert deterrence and to avoid false alarms are applicable to the whole range of event strengths which require identification. Later I will touch upon the substantive political issue of how strict verification requirements need to be in order to allow a decision in principle on a treaty.

17. To the three basic conditions I have mentioned one can add a fourth: namely, that the methods must be feasible in the practical sense by using existing monitoring facilities as they are or after some reasonable improvement or expansion of them.

18. Our informal meeting on 30 June with seismological experts present served to confirm that science can meet rather far-going demands regarding the first-mentioned three main conditions. It also showed how the capabilities of present facilities could be effectively expanded by comparatively modest investments. Canada has contributed scientifically by analysing present global possibilities and by mobilizing multinational action for a more effective international exchange of seismological data. It has been supported in this by experts and politically-responsible quarters in several countries. United Kingdom, Italian and Japanese seismologists have stressed the importance of improving the global station network at critical points. The United States has led us to expect that we will soon be able to assess the full capability of the largest arrays when they operate in concert. The Netherlands delegation gave us a study of the global incidence of earthquakes which provided an up-to-date basis for the calculation of where serious problems with risks for false alarms could be encountered.

19. But let me return to the three conditions for identification efficiency, false alarms and the ability to handle weak events. They have to be treated in fairly technical terms; but I hope to be able to present them in an intelligible way, reducing them to their essentials. I myself could not just repeat everything the experts say.

20. The first and second conditions together describe the possibilities of discriminating between explosions and earthquakes. The experimental data available to us about such capabilities are quite uneven in quality and quantity. For some monitoring systems and

some monitored areas we have many observations, for others only a few. In consequence, scientific conclusions about verification abilities are more or less founded for different regions. For this reason we have recently begun to employ a method that enables us to delineate those deterrent levels and those rates of false alarms with which we can be confident the monitoring system in question can provide us. By the word "confident" is meant — and I am going to use it persistently in that meaning — the usual confidence level for significant scientific conclusions: namely, that of seeing only a one-per-cent risk of drawing wrong conclusions. This method of finding confident results not only serves to narrow our need for further research; it also provides us with some firm ground to stand on for political conclusions.

21. In our working paper (CCD/329) submitted before the informal meeting we indicated that such confident conclusions are available; and I will now illustrate these by three examples. In all three examples the acceptable rate of false alarms is supposed to be one in a thousand earthquakes in the area in question.

22. First, a network of four widely-dispersed array stations of the British type and four standard stations in Asia gave, for explosions and earthquakes in certain areas in Asia, a confident probability of more than 99.9 per cent for correct identification of detected explosions.

23. Second, a single station in Sweden, measuring nuclear explosions and earthquakes across the Atlantic Ocean in certain areas of North America, was found to have confident probability of correct identification of detected explosions of 78 per cent or more.

24. Third, a network of Canadian stations, looking at nuclear explosions and earthquakes in certain areas in North America, established a confident probability of 12 per cent at the lowest for correct identification of detected explosions.

25. The probabilities of correct identification mentioned in the first two examples should satisfy, I think, far-reaching demands for assurance about the identification of explosions. We judge, however, that sufficient deterrence against violations would be obtained already with 10 per cent probability of correct identification — that is, for disclosure from abroad. This would mean that the result mentioned in the third example would be satisfactory also. I will return to that matter.

26. I quoted the first two examples to indicate that we have reliable evidence for rather effective discrimination methods. Concerning the important question of to how weak events they can be applied, the first two examples are not relevant, as the equipment of the stations limited the data to events equivalent to 100 kilotons or more. In the third example, however, the Canadian network, situated quite near the events in North America, had been able to register at 12 per cent or more probability of correct identification of explosions, weaker events also, down to about 5 kilotons. This result — 5 kilotons — if and when applicable also in other regions with similar relationship between networks and events, would mean quite an improvement on the general range of 20 to 60 kilotons which was quoted three years ago as the then lower limit for identification.

27. This probability of correct identification of an explosion constitutes the deterrence level that prevents a prospective violator attempting clandestine testing. It is obviously the most important item in our quest for a test-ban agreement to be verified primarily by seismic means.

28. The ultimate answer to the question of what is required is, of course, political in nature. We should specify the political requirements on deterrence level and rate of false alarms, so that the experts may have benchmarks against which to evaluate actual verification possibilities. Without them the political decision makers cannot expect to use the seismological method for settling the issue of test-ban verification.

29. The Swedish delegation feels, as I have said, that a deterrence level — that is, a risk of disclosure — of 10 per cent should be sufficient for political purposes. However,

I will say a few words on the question of the very weak events.

30. In that connexion we should recall that the seismological experts at our informal meeting pointed out as an inevitable fact -- a regrettable one, I would add -- that the practical identification ability will be reduced at decreasing event strength and will disappear altogether at some low level of event strength. Several factors are expected to contribute to this lower limit of monitorable events; we do not know as yet exactly where that limit is. One expert at our informal meeting ventured to guess that the 5-kiloton level would be attainable but not the 1-kiloton level. Perhaps we shall have the opportunity to determine what the lower level is by means of the super-arrays expected to come into joint operation.

31. But, wherever the limit lies, we must be ready to make political decisions about prohibiting nuclear explosions. Thus it is important to discuss what deterrence levels are considered sufficient at what event strengths. At the same time we must decide about acceptable levels for the expected yearly number of false alarms about earthquakes. Here we must take the seismicity of specific areas into account -- a question which the Netherlands delegation raised at the informal meeting.

32. It would be fortunate indeed if the limit attainable for monitoring in practice coincided with or fell below the political needs -- that is, if test explosions at unverifiably low levels were not military significant. But, whatever the answer to that question may be, political decisions usually call for compromises somewhere between all or nothing, between the desirable and the possible.

33. We dare not present any wholly fixed views on what is required; but, in order to catalyze a discussion of these, I think, quite important political requirements, I would offer a table showing lower limits of deterrence which correspond to yields. The figures in my columns have been chosen so as to be not far from what can be achieved technically today.

A deterrence level of 10 per cent corresponds to a yield of 3 kilotons

A deterrence level of 50 per cent corresponds to a yield of 10 kilotons

A deterrence level of 90 per cent corresponds to a yield of 30 kilotons

Deterrence levels refer to confidently-established possibilities of correct identification of an underground nuclear explosion, and yields here refer to the seismic equivalent of explosions in hard rock. The deterrence levels are considered to be concurrent with an expected rate of one false alarm about earthquakes in ten years.

34. These deterrence levels which I have just quoted refer to single explosions and would be moved upwards, of course, if a series of explosions were considered.

35. This excursion into the scientific aspects of verification -- which has not been too tedious, I hope -- demonstrates the value of the assistance of experts. The Swedish delegation will listen attentively to comments on the deterrence levels quoted.

36. We have so far limited ourselves to deterrence levels based upon verification capabilities of seismological methods. But governments are not dependent on those alone. Non-seismological methods, for instance, monitoring by satellites, will -- as was also stated at our informal meeting -- contribute to raise the level of deterrence; although such means do not lend themselves to a discussion in quantitative terms.

37. If one should want to move from the circumstantial evidence, which is derived by remote-control methods -- and which is already highly reliable for all but the smallest explosions -- to something like legally-conclusive evidence, one would have to scrutinize how much more could in reality be won by on-site inspections.

38. Some years ago we dealt at considerable length with the question about conditions and modalities of obligatory on-site inspections. One question is, have technical developments now improved the chances of success of inspection expeditions? Such on-site inspections still seem to be a political requirement on the part of some delegations; but we have been left in the dark as to how such a regulation would fit into an interna-

tional treaty. In an agreement between two or a few nuclear-weapon parties we can understand how the arrangements would work. But otherwise, in a truly multilateral case with some one hundred parties, a number of question marks remain.

39. If a treaty prescribed some yearly number of on-site inspections, say three, who would then be entitled to ask for them? Would every State party to the treaty have the right to make three on-site inspections per year on the territory of any other State? Or would one State party only have to admit three on-site inspections each year? Would it then be so that the deterrence effect is out when the quota of three inspections have been used up in one year -- and pre-emption is easy to arrange if wanted? To our mind, the more flexible system of verification by challenge, allowing for voluntary on-site inspection by invitation or upon request, could provide even more deterrence effect. Furthermore, we believe that any method of verification should preferably be internationalized -- the exchange of seismic data as well as the implementation of any on-site inspections.

40. Before leaving this issue, may I express the hope that the delegations particularly of the nuclear-weapon Powers will be in a position soon to answer the questions on the test-ban issue which I raised on 4 May (CCD/PV.513, paras.37-43)?

41. The real purpose of my statement today is to underline that the time has arrived when a treaty should be concluded on the basis of knowledge we already possess. It should not be postponed to some uncertain date in the future by being made contingent upon any specified future improvements in verification techniques, however welcome the prospects of such improvements are. The overwhelming reason for the Conference of the Committee on Disarmament to take action now is simply that such action is quite necessary as an answer to world-wide demands for disarmament -- demands that grow more and more impatient. These demands take on a special urgency when one recalls their connexion with certain disarmament agreements, that are as yet insufficiently fulfilled, such as the non-proliferation Treaty (ENDC/226). The completion -- through a ban on underground nuclear tests also -- of the partial test ban of 1963, with its substantial number of adherents, would constitute a desirable supplement to the non-proliferation Treaty which so far has a much less effective coverage.

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Netherlands/Bos

29.7.71 CBW

9. Turning to the question of verification, I may recall to the Committee that my delegation, in a statement on 18 March this year (CCD/PV.502, para.20), expressed itself in favour of a complaints procedure consisting of two stages. The first stage of dealing with a complaint should consist of a factual investigation by a body of experts or some other international organ. Only thereafter, at the discretion of the complaining party, could the Security Council be addressed on the strength of the findings of the international organ or body of experts. Under such a procedure one could avoid complaints becoming political and perhaps incriminating at an early stage. In other words, we made a plea for separation of the functions of investigation and political judgement.

10. For the reasons I have just stated, we feel great sympathy for the procedure contained in article III of the United Kingdom draft, because, as was stated by the Nigerian representative on 20 July:

"The United Kingdom draft seems better to ensure an automatic and impartial investigation of the use of biological methods of warfare and toxins without any danger of delay." (CCD/PV.522, para.20)

We have noted with interest that similar views on preliminary fact-finding and political judgement are held by the delegations of Sweden (CCD/PV.499, para.7), Brazil (CCD/PV.510, para.55), Italy (CCD/PV.512, para.11) and Argentina (*ibid.*, para.60).

17. In any convention an important place is occupied by the provisions designed to ensure its realization, and consequently the viability and effectiveness of the agreement contained in it. The draft convention on the prohibition of bacteriological weapons submitted to the Committee for consideration is based upon a combination of international and national guarantees of its fulfilment. The draft provides in the first place for the obligation of States to take, in accordance with their constitutional processes, the necessary measures for the implementation of the prohibitions laid down in the convention. Those measures must be taken within the territory of a State under its jurisdiction or under its control anywhere. The corresponding provisions on the responsibility of States for the implementation of the obligations under the convention, contained in articles IV and V of the draft convention of 30 March, have been united in article IV of the draft convention submitted today.

18. Secondly, it provides for the obligation of the parties to the convention to consult one another and to co-operate in solving any problems that may arise in the application of its provisions. In the event that a State party to the convention finds that actions of any other State party constitute a breach of the obligations assumed under the provisions of the convention, it may lodge a complaint with the Security Council of the United Nations and co-operate in carrying out the investigation undertaken by the Security Council. The procedure envisaged for lodging a complaint with the Security Council in the event of a breach of the convention ensures in the best possible way the implementation of the task of an objective investigation of the circumstances of the breach and the adoption of prompt and effective measures for its suppression.

19. The system of safeguards contained in the draft is reinforced by the provisions of the convention regarding the convening of a conference to review the operation and implementation of the provisions of the convention. The combination of those provisions guarantees the effectiveness and viability of the agreement on the complete prohibition of bacteriological (biological) weapons and toxins.

85. Verification of a draft convention on biological weapons is a subject that continues to interest many members of the Committee. It is that aspect of arms-control agreements that traditionally has been dealt with at this stage in negotiations. My delegation has spoken on previous occasions of the advantages of a procedure that is prompt, impartial and effective, and which takes place prior to political consideration. In this connexion we have noted that on 29 July (CCD/PV.525, paras.9, 10) the representative of the Netherlands drew attention to the number of speakers who had already urged the separation of the functions of investigation and political judgement. He instanced himself and the representatives of Nigeria, Sweden, Brazil, Italy and Argentina.

86. The United Kingdom delegation has from the outset stressed the significance of verification of use and the great importance of including in a biological-weapons convention a procedure for verification of use. On a previous occasion my delegation has drawn attention (CCD/PV.510, paras.6 *et seq.*) to the effectiveness of such a procedure for verification of use in deterring violations of the provisions on development, production and stockpiling of biological and toxin weapons and on their destruction. It seems to me that it is only by investigation of complaints of use that we can be certain of establishing a procedure that will be both speedy and relatively easy to carry out.

87. The reason for this is that a complaint of use would be lodged by a State that

considered it had been the victim of an attack. The evidence it would offer would in all probability include direct examination on its own territory. Allegations of a breach of the other bans would almost certainly have to be based on extra-territorial evidence. But evidence of use -- I repeat, by direct examination on the territory of the complaining State, not on that of the State complained against -- would provide very strong evidence that another State had violated the ban on the production and possession of biological weapons in order to be able to use them.

88. Yet a further advantage of such a procedure would lie in the reduced opportunities for false accusations backed by insufficient evidence. It is not too difficult to imagine a situation in which a State might accuse another of breaking, for example, the ban on production but without being able to produce evidence to justify such an accusation. In such circumstances recriminations and a hostile atmosphere might easily be engendered. We ought to be negotiating to eliminate the risk of this sort of thing.

89. The representative of Sweden seemed to me to have something of the same sort in mind when on 27 July, speaking on the subject of the comprehensive test ban, she referred to the desirability of "a step-wise ... sequence of inquiries and exchanges of information", only finally enforced through the "now generally-accepted complaints procedure of recourse to the Security Council of the United Nations." (CCD/PV.524, para.15). In the case of biological weapons I would venture to suggest that the procedure we have outlined for verification of allegations of use might be more appropriate than the model of verification by invitation. But I too would like to think that such a provision separating the fact-finding stage from the stage of political consideration by the Security Council had become hallowed by our experience in negotiating treaties, and that it will find its place in the draft eventually commended to the General Assembly by this Committee.

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Czechoslovakia/Vejvoda

17.8.71

CBW

24. Up to now we have not heard anything in this Committee that would substantially change our opinion on the way of solving questions connected with the prohibition of chemical weapons. Let us take, for example, a question that has so far caused us major difficulties: that of control and safeguards. Regarding that problem, the proposal of the socialist countries to which I have referred contains, in its articles IV to VII, provisions for a system of control based on a combination of the due national and international procedures. Some delegations have declared that they did not regard those provisions as sufficient. Yet what have they produced instead, except a number of requirements whose fulfilment would be almost impossible and would not lead to any concrete end? Or, with the help of experts, they have put forward observations on the carrying out of a control such that the requirements could be fulfilled only if the individual countries put practically all of their chemical industries under the control of some controlling organization.

25. Let us take, for example, a questionnaire that was distributed at one of our informal meetings under the title "Inspection Questionnaire". According to that questionnaire chemical plants should supply, inter alia, data such as the description of design and testing of chemical-process equipment and the development of chemical processes. Further, information should be supplied on the production capabilities of the entire plant -- the kind of production process deployed for individual products, the size of the previous year's production, and so on. That questionnaire requires, inter alia, the supplying of information on the number of personnel working in various branches of the plant, the recruitment and acquisition methods, the way and procedure of entering the plant, whether identity cards are required for entering, and so on. I think it is unnecessary to

go into further detail to give an idea of the purpose such questionnaires might serve. Even if filled in meticulously they would lead us nowhere. They would only increase enormously the demands on the parties to the treaty or convention, and lead to the setting-up of huge, unnecessary control machinery. At the same time, however, it would be difficult to learn from them whether someone was producing chemical weapons. We wish to stress once again, regarding such attempts, that it is necessary to have always in mind the "element of trust" and the "element of political responsibility" of each party to the convention.

26. We have heard also a number of other proposals pertaining to this problem. They related to the verification of adherence to the convention on chemical weapons through remote (extraterritorial) sampling and sampling techniques in laboratory conditions for on-site control purposes. At the same time doubts were expressed about the existence, for certain kinds of substances, of technical processes that would be of any use at all. Arguments were frequently raised that a number of substances, particularly auxiliary ones, can be deployed for both civil and military purposes and that it is very difficult to make a distinction between those purposes.

27. We repeat once again that none of the material that has been made available on this question, either in working papers or in another form, has contained anything that could make a substantial change in the basic provisions on the question of control as proposed in the socialist draft convention on the prohibition of chemical and biological weapons. We have dwelt at some length on this question also because we wished to stress the need for our endeavours and efforts to deal continuously with the problems of the complete prohibition of chemical weapons even though we now have before us a proposal for the solution of the prohibition of bacteriological (biological) weapons only.

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Japan/Tanaka

17.8.71

CTB

59. Secondly, I should like to draw attention to the objective circumstances which seem to indicate the possibility of our making substantial progress in the prohibition of underground tests. As we are all well aware, the United States and the Soviet Union have carried out numerous underground tests in the past. I venture to think that, from the point of view of discovery in the field of military technology, the law of diminishing returns is now applicable as a matter of general principle, in the case of underground tests.

60. Furthermore, I should also like to point to the progress which has been made in the field of verification techniques concerning underground tests since the conclusion of the partial test-ban Treaty of 1963. We believe that, in addition to the steady development of seismological means, the introduction of such methods as reconnaissance satellites and their combined use are now making it possible to improve our verification capability to a considerable degree. It is therefore our belief that this Committee should now embark as soon as possible upon a re-examination of concrete measures for the banning of underground tests, from a new angle and in accordance with the development of verification techniques.

61. In this connexion I should like to pay a high tribute to the contributions made by the delegations of Canada, Sweden and other States with regard to the solution of this problem. In addition to the submission during the spring session of 1969 of their working paper (ENDC/242) on a draft treaty on this subject, the delegation of Sweden put forward another concrete suggestion this session on 27 July, including the concept of a phasing-out period (CCD/PV.524, paras.6-10). I believe that such a useful contribution should provide another important impetus and facilitate the deliberations on this question.

62. Also, the delegation of Canada has put forward this year (CCD/PV.507, paras.16-28) realistic and flexible suggestions on a series of transitional measures, including advance notification of details of planned nuclear explosions, co-operation in detecting underground tests by seismological means, and measures to reduce testing and guard against its harmful effect on the environment. My delegation supports all those measures.

63. Needless to say, it would be most desirable for an agreement to be reached in the very near future with regard to the realization of the comprehensive and immediate prohibition of nuclear-weapon tests. But, if it is difficult to achieve such an agreement in a single bound, I believe that we should take steps as a transitional measure for the reduction of underground tests, leading to the realization of the comprehensive prohibition of nuclear-weapon tests. This kind of step-by-step approach is by no means a peculiar one, applicable only to the question of a comprehensive test ban; it is the only feasible approach in any disarmament measure, whenever we are unable to agree on a comprehensive and immediate solution.

64. As I have stated above, we should implement those transitional measures as soon as possible as the first step towards the comprehensive prohibition of nuclear-weapon tests with a view to facilitating a substantial discussion in this Committee. To this end I should like to urge major nuclear-weapon States to reduce, either through unilateral action such as self-restraint or, if possible, through joint action based upon mutual understanding, the number and scale of underground tests, now being conducted so frequently, with particular emphasis on the high-yield tests detectable and identifiable by extraterritorial means. In the light of the remarkable progress in the field of verification techniques, as I mentioned earlier, the possibility of conducting clandestine underground tests which might jeopardize the present balance of nuclear deterrence is believed to be small; although it is not yet possible to detect and identify all the underground tests of low yield.

65. Accordingly, I believe that conditions have become ripe for an early implementation of measures to reduce underground tests. In this connexion I recall the fact that the United States and the Soviet Union at one time in the past adopted measures of self-restraint regarding their nuclear-weapon tests in the atmosphere. Unfortunately those measures of self-restraint did not last long. However, in my view, objective situations with regard to this question have changed greatly compared with the cold-war days. Furthermore, the reduction of underground tests by the major nuclear-weapon States, together with progress in the Strategic Arms Limitation Talks, would not only contribute to increasing the sense of security in the world, but also constitute an important step towards our ultimate objective of the comprehensive prohibition of nuclear-weapon tests.

66. Since our ultimate objective is to achieve the realization of the comprehensive prohibition of nuclear-weapon tests, I deem it necessary that this Committee pursue active negotiations for a treaty on the comprehensive prohibition of nuclear-weapon tests, while implementing transitional measures which would lead us closer to our goal. In this connexion there is no doubt that the nuclear-weapon States themselves, particularly the United States and the Soviet Union, possess much pertinent material and information relating to the science and technology of verification, which is the key to the realization of the comprehensive prohibition of nuclear-weapon tests. We hope, therefore, that the United States and the Soviet Union, which provide the co-Chairmen of this Committee, will make active contributions to the formulation of a treaty on the comprehensive prohibition of nuclear-weapon tests, taking into account the many useful proposals on this question so far submitted to this Committee. Furthermore, mindful of the fact that in the past the co-Chairmen have submitted draft treaties to this Committee during the course of our negotiations on other important disarmament measures, we feel it appropriate that the United States and the Soviet Union should

make similar efforts in this direction.

67. With regard to the question of verification, we are all aware that the United States maintains the position that adequate on-site inspection is necessary; while the Soviet Union insists that verification could be based solely on national means. However, I recall in this connexion that both the United States and the Soviet Union have made various concrete proposals in the past on the question of verification; and that their positions have drawn closer to one another on such matters as the installation of "black boxes", the number of on-site inspections, and so on. Accordingly we earnestly hope that, in the light of the progress in science and technology since achieved, the United States and the Soviet Union will now put forward concrete proposals relating to the question of verification with a view to harmonizing their respective positions on that question.

68. In this connexion we should like to point out that the scientific and technological information and material available to this Committee in its deliberations on the question of verification have come mainly from public statements or published material of Western countries. I hope that, in order to make our deliberations more fruitful, all militarily-important States will co-operate more actively in providing relevant information on that question.

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Italy/Caracciolo

19.8.71 CBW

6. It would also have to be borne in mind that a truly effective verification system could be used either for applying the provisions prohibiting the development, production and stockpiling of those weapons -- for instance, those in the draft treaty which we are studying -- or for keeping watch at the same time for violations of the Geneva Protocol's express prohibition of the use of biological weapons (A/7575/Rev., Annex VI). The verification procedure could even be set on foot under this treaty by a complaint of the use of biological weapons, because such use would be by itself conclusive evidence that a certain production had continued or that certain stocks had not been destroyed and that the treaty had therefore been violated.

7. For solving the problem of verification the new draft merely gives in its article VI a right to complain to the Security Council. It seems, therefore, that insufficient account has been taken of the anxiety that gave rise to the provision in the United Kingdom draft (CCD/255/Rev.2) for intervention by another organ which could use its own functions to secure an impartial preliminary examination of the complaint. I have already, in my statement of 29 April, expressed certain doubts of the wisdom of relying exclusively on the action of the Security Council, which might be paralysed at the moment of decision by the veto of a permanent member (CCD/PV.512, para.11).

8. Consideration of the objective requirements of a system of verification has led us to the following observations which I should like to bring to the attention of the Committee.

9. It seems to us that, in order to tackle the problem in a realistic way, we must base ourselves upon one essential consideration: that violations that required verification would not always -- at least prima facie -- look like an act or situation justifying an immediate recourse to the Security Council as if there were a threat to international peace and security.

10. One example will be sufficient to support that argument. Article IX of the draft treaty authorizes the development, production, use and exchange of biological agents and toxins for peaceful purposes and seeks to promote international co-operation based upon those activities. A similar authorization is implicit in article I. Let us suppose that a contracting party wishes to show that a certain cycle of production, a certain type of research or an exchange of material carried out under article IX had military purposes.

It is then necessary, of course, to verify the observance of the treaty. But an immediate intervention of the Security Council on a complaint based upon mere suspicion might trigger a political conflict before any technical inquiry into the nature of the activities complained of had shown the international scope and possible repercussions of the case.

11. It would therefore be desirable to provide in the procedure a verification phase allowing such an inquiry to be carried out by an impartial organ before recourse to the supreme political authority. Otherwise there would be a risk of giving all disputes relating to the implementation of the treaty a political character.

12. It could be claimed that the Security Council can itself order a technical investigation of the facts forming the basis of a complaint. Of course the Security Council could use the powers conferred upon it by article VI of the draft treaty and take such a decision; but such decisions would inevitably be affected by the political reactions which would be provoked by the investigation of each complaint. Consequently, if no organ were specifically designated by the treaty to carry out technical inquiries, the Security Council might in each case request a different organ to carry out the necessary inquiry; thus the inquiries might not be based on uniform criteria, although uniformity of criteria would be necessary in order to prevent different interpretations of similar cases, which would weaken the credibility of the treaty.

13. It seems to me, therefore, that these preliminary reflections confirm the necessity, which has moreover been emphasized by various delegations, for the establishment of a real distinction between the function of inquiry and the intervention of the Security Council, and hence to provide for them two distinct phases in the procedure. Several delegations have suggested, in order to meet that need, that the procedure indicated in the new draft should be amplified by a formula similar to that adopted in article III, paragraph 5, of the Treaty on the denuclearization of the sea-bed (General Assembly resolution 2660 (XXV), annex; CCD/318), which provides for the use of "appropriate international procedures within the framework of the United Nations and in accordance with its Charter".

14. That suggestion undoubtedly improves on the present wording of the draft; but we think it could be made still clearer. In fact, a text phrased in general terms would have the not inconsiderable drawback that it would almost be necessary to await the first violation of the treaty before deciding on the appropriate international procedure. In other words, that wording would leave open the question of the procedure to be applied in each specific situation.

15. Such a scheme might have been justified for the Treaty on the denuclearization of the sea-bed, because there was no organ in that sphere to which the technical duties of verifying the application of the Treaty could have been allotted in advance. Where, however, the treaty covers an area where organs of that type already exist, it appears to me logical to explore the possibility of using them systematically for the verification procedure.

16. It seems to us, therefore, that the most constructive way of tackling our problem would be to see whether there exists in the biological sphere a technically-qualified international organ which might in some way be linked with the mechanism of verification. Perhaps the World Health Organization might be that organ. Because of its prestige and its institutional vocation, it might help to apply the treaty with the necessary objectivity and competence. In this connexion it seems to me that, as a result of the agreement it has concluded with the United Nations under Article 57 of the Charter, the World Health Organization has already established with the United Nations links of co-operation which could be used in the way we suggest. Of course, the possibilities of intervention by the World Health Organization cannot exceed the limits fixed for its institutional activities. A procedure authorizing and regulating recourse to the World Health Organization under the treaty on biological weapons should take account of that

requirement.

CCD/PV.536 pp.9-13

USSR/Roshchin

7.9.71

CTB

18. During the discussion of this problem at the spring and summer sessions of the Committee on Disarmament a number of ideas and proposals concerning ways of solving it were put forward. A prominent place in the discussion was occupied by proposals to prohibit underground nuclear-weapon tests not all at once but through separate, partial steps leading to the accomplishment of that aim. One of the proposals submitted by Canada, the United Kingdom and Japan and which found a response in statements by other delegations, consists in establishing a certain "threshold of magnitude" for underground nuclear tests above which no tests of nuclear weapons are to be carried out. To what extent would such a step contribute to the cessation of underground tests?

19. Before answering that question we should like to recall that at one time the idea of a "threshold of magnitude" was put forward by the United Arab Republic (ENDC/144, p.33), not, however, in the sense of permitting tests below the established threshold, but in combination with the declaration of a moratorium on the conduct of such explosions, that is, explosions below the threshold of magnitude 4.75 (according to the Richter Scale). That United Arab Republic proposal really pursued the aim of a complete cessation of all types of underground nuclear-weapon tests and for that reason was supported by the Soviet Union, which regarded that proposal as a constructive contribution by its sponsors to the solution of the problem in question.

20. If, in the light of that fact, we turn to the idea of establishing a certain "threshold of magnitude" for underground nuclear tests outside the link with a moratorium on all underground nuclear tests below the established "threshold", it must be admitted that such an approach would not provide a solution of the problem of banning underground nuclear-weapon tests, nor would it create more favourable prospects for progress towards its solution. We share the doubts of a number of delegations -- Sweden, the United Arab Republic, Ethiopia and the Netherlands -- about the effectiveness of the "threshold" approach as such. In particular we recognize the cogency of the arguments advanced by the representative of Sweden, Mrs. Myrdal, against the proposal to establish a "threshold". She said:

"There are two sets of reasons, of which one may be called political and one technical, why the Swedish Government has all along hesitated to support the threshold proposal. It would, in our view, be another half-measure, perhaps limiting arms development in some directions but leaving other directions open for so-called improvements of nuclear weapons."
(CCD/PV.513, para.14)

21. In fact, it can hardly be doubted that establishing a "threshold of magnitude", while at the same time authorizing nuclear explosions below the established "threshold", would have the result of stimulating the conduct of nuclear explosions of lower yield, which would thus become, as it were, legalized. Such a solution would entail the development of nuclear weapons of small capacities or, as the representative of Japan, Mr. Tanaka, described it, a "miniaturization" of nuclear weapons (CCD/PV.518, para.25). Thus the establishment of a "threshold of magnitude" would not put a stop to the building up of nuclear arsenals, nor would it contribute towards nuclear disarmament, which many countries, including the Soviet Union, are striving to achieve. On the contrary, it would encourage new efforts to devise improved types of warheads and thus would promote the development of nuclear weapons as a whole. It goes without saying that that is not the path along which we would wish to direct efforts towards disarmament and arms limitation.

22. Referring to the technical aspects of the "threshold" proposal, the representative of Sweden, Mrs. Myrdal, pointed out that it was not possible to determine beyond dispute whether an event — that is, an underground nuclear explosion — lay below the established threshold or not. She then said:

"The threshold concept would thus introduce serious technical problems which an all-out ban wholly avoids. Even if we could agree on a treaty text solving these problems, much controversy could still be foreseen in the subsequent operation of a threshold treaty." (CCD/PV.513, para.18)

23. In fact, the implementation of the "threshold" proposal could create conflict between parties to the agreement as to the degree of precision with which it is possible to determine over varying distances the yields of nuclear explosions — that is, whether they lie above or below the established "threshold". A treaty of such a nature, containing the seeds of discord between States, would not only fail to ensure the establishment of better relations among the parties to it but might also entail a deterioration in the international atmosphere.

24. The idea of a so-called "descending quota" of underground nuclear explosions has been put forward as a partial or intermediate approach to the solution of the problem. It is envisaged that during a certain period of time nuclear weapon tests would be permitted but that their number would be limited and reduced every year, falling to zero by the end of a certain period. Such a proposal was submitted by the United Kingdom in document ENDC/232 and supported by Canada and several other delegations.

25. In considering this proposal in the light of the search for a solution of the problem of banning underground nuclear-weapon tests, one is bound to come to the conclusion that it does not provide an answer to any of the problems that have arisen in connexion with the aforesaid aim of banning underground nuclear tests. Thus in this connexion the question quite naturally arises: on what would the system of guarantees of observance of the commitments under an underground test ban be based? If the system is to be based upon national means of detection, then one cannot understand why there is any need at all for a transitional period with a "descending quota" instead of prohibiting any nuclear-weapon tests as quickly as possible and completely. To include in the treaty banning underground test explosions a transitional period with a "descending quota" of such explosions would only complicate the achievement of an agreement on this problem, which is complicated enough already. If the proposal for a "descending quota" of explosions implies control over the observance of the treaty through obligatory on-site inspections, as proposed by the United Kingdom in particular, this would take us back into the vicious circle created by some Western Powers which, by putting forward a far-fetched demand for inspections, block the solution of the problem of putting an end to all nuclear-weapon tests, including underground tests.

26. The proposal for a "descending quota" of underground nuclear explosions would in no way solve the problem of banning underground nuclear-weapon tests, or even bring us closer to its solution. All the obstacles which at the present time stand in the way of progress towards its solution would not only remain, but to them would be added many other difficulties connected with the establishment of quotas for various States, the periods of their validity, and so on.

27. In addition to the aforementioned proposals, in the course of the discussion in the Committee on Disarmament on underground tests the representative of Canada, Mr. Ignatieff, suggested notification in advance of projected underground explosions and of programmes for conducting such tests (CCD/PV.517, para.57). In his opinion that would facilitate the solution of the problem of stopping underground nuclear-weapon tests. The Soviet delegation does not share that opinion. Of course, nuclear-weapon testing programmes are of a certain interest, not from the standpoint of disarmament but for the development of nuclear weapons, for the military use of nuclear energy. The publi-

cation of underground testing programmes would facilitate the acquisition of information by certain military services of other States but would not facilitate the solution of the problem of putting an end to underground nuclear tests.

28. Thus we should like to point out that the ideas and proposals put forward by several delegations regarding transitional or partial ways of solving the problem of the prohibition of underground nuclear-weapon tests which according to the representative of Canada "exist in great variety" (CCD/PV.507, para.25) do not at all create any possibilities for making progress towards such a prohibition. As a matter of fact, such proposals could only complicate the solution of the problem and create the illusion that some sort of new approaches to it have emerged.

29. We have been told here that on questions of disarmament and in particular on the question of banning underground nuclear explosions one should not take an "all or nothing" attitude. We agree in principle with such an approach but we do not accept such a line when we are offered illusory concepts simply to fill the gaps resulting from unwillingness on the part of the Western Powers to take the necessary political decision to put an end to nuclear-weapon tests.

30. In these conditions it seems odd, to say the least, that of late certain delegations in the Committee on Disarmament have begun to devote increased attention to the study of the technical aspects of control over the prohibition of underground tests. Thus the representative of Italy, Mr. Caracciolo, suggests that a sub-committee or working party be established for that purpose (CCD/PV.528, para.33). If the States concerned are not prepared to adopt a political solution to the problem, as setting up in the Committee of sub-committees or working parties, no organization of technical studies and discussions will bring us closer to the desired goal of putting an end to underground nuclear-weapon tests. The development of the discussion of the technical aspects of this problem would only cover up the lack of real progress. As we understand it, that is what the Swedish delegation had in mind in stating that "the time has arrived when a treaty should be concluded on the basis of the knowledge we already possess." (CCD/PV.524, para.41)

31. The question of the use of so-called "black boxes" — that is, automatic seismic devices for the purposes of control over the cessation of nuclear tests — was also raised during the discussion of the problem of such tests. The representative of Mexico, Mr. Garcia Robles, was interested, in particular, in our present attitude to the idea of the use of such boxes (CCD/PV.504, paras.56-64; CCD/PV.532, para.49), which were referred to in the initial stages of the work of this Committee. The idea of "black boxes" was put forward nine years ago at the Pugwash Conference of scientists in August 1962 in Cambridge. It was supported by the Soviet Union with a view to facilitating a political solution of the problem of the prohibition of underground nuclear tests. We held then, as we continue to hold now, that control over the prohibition of tests can be ensured through national means of verification. The United States, being unwilling to stop nuclear-weapon tests, declined the proposal concerning the "black boxes" and continues to adhere to its position of 1962 in regard to them.

Since the consideration of this question nine years ago failed to lead to any progress by the Committee in the direction desired, are there any data today that would show that a resumption of the discussion of the question of so-called "black boxes" might produce a different result? It seems to us doubtful whether resumption of the discussion of the "black boxes" question would take us any further in solving the problem of underground nuclear explosions.

9. With respect to the possibilities of detection and identification by national means,

we can divide the whole spectrum of possible underground nuclear explosions into three categories: explosions that can be detected, located and identified; explosions that can be detected and located but not identified; and explosions that cannot be detected at all or, in some cases, can be detected but cannot be located. It is only with respect to the second category that the question of on-site inspection comes under consideration, for in order to carry out any on-site inspection it is necessary first to detect and locate a seismic event. With respect to the third category, the possibility of on-site inspection is of no avail. That implies that all parties to the test ban negotiations have always been prepared to accept some risk of evasion.

10. If we compare the different proposals that have been made on the verification of a comprehensive test ban, we should realize that we are never offered a choice between a comprehensive test ban with a risk of evasion and a comprehensive test ban without a risk of evasion; for with none of the proposed systems will there ever be 100 per cent certainty that a comprehensive test ban is fully complied with. Therefore I said in my statement of 29 April that —

"...we must in any case ponder the question of what is more important: the banning of all tests, with a risk that small explosions could go on undetected, or the continuance of underground tests without restriction."

(ibid., para.40)

11. In order to view the controversy on verification in its proper proportions, it might be useful to describe the three above-mentioned categories of explosions in more quantitative terms.

12. First of all, as to the category of explosions which can be detected and identified by national means with a high degree of certainty, it should be concluded from the Canadian analysis of 1970 (CCD/305) that this category comprises explosions down to a yield of about 50 kilotons in hard rock in the Northern Hemisphere, using the present seismic monitoring system. However, in their excellent new analysis of 29 June (CCD/327), the Canadian experts showed that explosions down to a yield of about 20 kilotons in most natural environments, except dry alluvium, can be identified with the present system.

13. Moreover, it is indicated in their paper, as it was in our working paper CCD/323, that it seems possible to install a seismic monitoring system capable of identifying hard-rock explosions down to a yield of about 5-10 kilotons in the Northern Hemisphere. Such a system can be achieved mainly by the installation of a number of long-period vertical seismometers (LPZ-instruments) at selected places. I may add that even if sometimes there should be natural earthquakes which behaved as explosions, the recent Netherlands working paper indicates that their number would be very small in this range. In this context I may refer also to the article by Dr. Ericsson which was circulated by the Swedish delegation.

14. With respect to explosions in dry alluvium, the seismic detection and identification possibilities relate to yields about tenfold those given for hard-rock explosions. However, explosions in dry alluvium of a yield of 20-30 kilotons or higher would normally cause cratering of the surface, which might be discovered, for instance, by satellite photography.

15. The third of the three categories I mentioned, that is the category of explosions that cannot be detected at all or, in certain instances, may be detected but not located, comprises explosions of a few kilotons or less in hard rock as well as bigger explosions in dry alluvium. In contrast to the first category, the carrying-out of nuclear test explosions in dry alluvium becomes interesting here because for yields under about 10 kilotons there seem to be better possibilities of avoiding the phenomenon of cratering. Incidentally, a would-be test-ban violator would probably take no risk of being found out and therefore would only test explosive devices well under 10 kilotons. I may mention in

passing that of the relevant countries some have only very restricted areas where there are sufficiently thick layers of dry alluvium.

16. From what I have said so far about the first and third categories of explosions we can get a clearer view of the scope of the second category -- namely, the only category which has relevance to the problem of on-site inspection. This category now seems to comprise a range of yields between a few and about 20 kilotons and may be further reduced by the introduction of advanced methods and instruments. At the same time, the number of earthquakes equivalent to explosions in this range is relatively small, which would restrict the possibility of violating a test ban without raising serious suspicion. When we say that on-site inspections can serve to strengthen the deterrence from evasion, we should take account of those facts and figures for the second category of explosions -- that is, the category of explosions that can be detected and located but not identified by national means -- in order to obtain a correct understanding of the dimensions of the problem.

CCD/PV.542 pp.9-10

USA/Leonard

28.9.71

CBW

20. Articles V, VI, and VII strengthen the convention by establishing a framework for consideration of any problems arising under the convention and for assistance to any party endangered as a result of a violation.

21. Article V now provides for consultations and co-operation in solving any problems which may arise in relation to the objective of the convention, as well as in situations involving the application of specific provisions. This reflects a view, which we believe is widely shared, that such consultations and co-operation should not necessarily be limited to narrow questions of the technical violation of any particular article but should encompass as well any problems concerning the achievement of the over-all objective of the treaty. In accordance with a suggestion contained in working paper CCD/341, the article also provides that such consultation and co-operation may be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter.

22. Article VI contains provisions regarding recourse to the machinery of the United Nations Security Council, in accordance with the Charter of the United Nations, in cases in which a violation is suspected.

23. Article VII, the new article on assistance, is responsive to the suggestions of a number of delegations, including those of Argentina, Italy, Morocco, Nigeria, the Netherlands and the United Kingdom. While the article does not, of course, affect the obligations or the exercise of the rights of the parties under the United Nations Charter, it reaffirms those rights and obligations in the specific context of a possible violation of the present convention. It thus stresses the importance attached by all States parties to the strict observance of the convention by placing the question of a possible violation, resulting in danger to any State which has agreed to abide by its prohibitions, on the highest plane of international concern. The nature of the assistance to be provided following a request by the endangered State party would of course be in accordance with the Charter. However, in the light of the danger which would be most likely to exist in such a situation, we consider that medical or other humanitarian or relief assistance would be suitable.

24. We would like to note further that, while the article by its terms would not apply until a decision by the Security Council that a party had been exposed to danger as a result of violation of the convention, States parties would of course remain free to provide assistance they deem appropriate in the interim. As in other situations where a country is in need of humanitarian assistance, we expect that many countries would wish

to offer assistance as soon as possible in any event.

CCD/PV.542 pp.17-18

USSR/Roshchin

28.9.71 CBW

54. The new revised draft convention submitted today contains a detailed system for ensuring its observance, based on a combination of international and national guarantees. It includes an obligation for States to take the necessary measures, in accordance with their constitutional procedures, to comply with the prohibitions provided for in the convention, and also an undertaking by the parties to the convention to consult one another and co-operate in solving any problems which may arise in its application. Such consultation and co-operation may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. If a party to the convention finds that other parties are acting in breach of the obligations assumed under the convention, it may lodge a complaint with the Security Council of the United Nations and co-operate in carrying out investigations initiated by the Council. The system of guarantees contained in the draft is strengthened by the provisions of the convention concerning the convening of a conference to review the operation of the convention and the realization of its purposes and provisions.

55. A new feature in the system of verification is the provision concerning international procedures, which is a development of the corresponding provisions in the previous draft. This addition has been made in response to proposals by the group of non-aligned countries (CCD/341) and by certain Western States — Italy (CCD/PV.531, paras.7-17) and the Netherlands (CCD/PV.502, para.20; CCD/PV.525, para.9). This amendment also takes into account the point made by Egypt (CCD/328) that there are instances when relations between some States are of a nature as not to allow of the implementation of the provision on direct consultation and co-operation between parties.

56. The formulation regarding international procedures has been taken from the corresponding provision of the Treaty on the Prohibition of the Emplacement of Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor. We believe that this question, which was extensively discussed during the drafting of the sea-bed Treaty, was solved in the proper manner in that Treaty, and that the solution may serve as a good precedent in the present case.

57. In accordance with proposals made by many States — Morocco, Nigeria, Argentina, Italy, the Netherlands and others — a new article, Article VII, has been included in the convention. This deals with assistance to any party to the convention which so requests, if the Security Council decides that such party has been exposed to danger as a result of violation of the convention. This wording of the article appears to us to be more correct than the formulation which referred to assistance only in the case of the use of bacteriological and toxin weapons, since the convention deals with the prohibition of the production and development of those weapons and not their use, which is already prohibited by the Geneva Protocol. The formulation adopted has a wider sense and is directly connected with the content of the convention as a whole. Under article VII, not only the use of the prohibited weapons, but also a violation of the convention by producing or acquiring the prohibited types of weapons, may serve as grounds for a decision by the Security Council declaring that a danger exists as a result of violation of the convention.

58. The question was also raised as to what is understood by the word "assistance". Views were expressed that the term meant medical or relief measures. We agree that for the purposes of the convention it means medical and other humanitarian assistance. At the same time, other measures may be taken in accordance with the Charter of the United Nations for the protection of the security of the party attacked and for the

maintenance of peace, as provided for in Chapter VII of the United Nations Charter. It should be noted also that article VII of the convention does not, of course, exclude the provision of assistance on the basis of other agreements and obligations in keeping with the United Nations Charter.

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pp.21-22

UK/Hainworth

28.9.71

CBW

71. In my statement of 10 August I stressed the advantages that my delegation saw in making it clear that whatever complaints procedure we devised for the convention would cover complaints involving the use of biological weapons. In this way we should arm the convention with the best practicable deterrent possible against a violation of its provisions.

72. The three articles V, VI, and VII form what might be called the "complaints" or "verification complex". Under article V parties may approach each other to try to establish the facts of a given situation. If for any reason a direct approach should not be appropriate, provision is made for an indirect approach. The manner of such an indirect approach is not set out in detail but the formulation, which has already been quoted, namely "appropriate international procedures within the framework of the United Nations and in accordance with its Charter", is wide and flexible. It could embrace many different avenues for consultation and co-operation to solve any problems which may arise in relation to the objective of, or in the application of the provisions of, the convention. The procedure under article V is separate from, but closely related to, the complaints procedure in article VI. As such it is entirely consistent with United Kingdom suggestions for a procedure, when appropriate, prior to the activation of the Security Council, and one which for example, by establishing the facts in a given situation, might help the Security Council in its consideration of a complaint. Such evidence, obtained under the procedures envisaged in article V, could then be used as the basis for a factual report to be submitted as an integral part of a complaint made to the Security Council under article VI.

73. On occasion, however, there may be reasons why parties would not wish to go through the procedures envisaged in article V. There may be interests of speed or other reasons that would make a party wish to take a complaint direct to the Security Council. It is the view of my delegation that normally the Security Council will decide to initiate an enquiry into the facts of the situation if there has been no prior enquiry under the provisions of article V. Naturally, the results of this enquiry would be part of the information conveyed to parties. It is now, I think, common ground between delegations that proof that biological or toxin weapons have been used is likely to be the most readily available and the most unequivocal proof of a breach of the undertakings under articles I and II. Accordingly my delegation believes that the provisions of articles V and VI constitute a powerful deterrent against any temptation to initiate biological methods of warfare in contravention of this convention or the Geneva Protocol.

74. The United Kingdom delegation has from the outset emphasized the value of including an assistance article in any convention dealing with biological warfare. In the form in which it appears in CCD/353, article VII, which owes much to the ingenuity of the wording proposed by the Moroccan delegation (CCD/347), will be of considerable value. When I spoke on 10 August I indicated my delegation's views on the form this assistance would take. It will surely be a major factor, to be taken into account by any State which might, in contravention of the new convention, be planning to produce and use biological weapons and toxins, if it knows that the effect of such a contravention will immediately be countered by the most appropriate quantity and type of vaccines, relief and other humanitarian aids that the world can deploy. It is also in my view right to

make provision for a physical manifestation of the sort of response the world community would wish to make to show its repugnance at such use.

75. Naturally there might be occasions, for example when a State's ally was attacked, when additional assistance possibly of a military nature in accordance with the United Nations Charter would be appropriate. Obviously, however, military assistance would only be given at the specific request of the injured party. Equally, any other State party would not be obliged to give military support if it did not wish to. The form of assistance desired would be decided in the first place by the requesting party, but it would also be for the assisting State to decide whether the assistance requested was something which it could or was prepared to supply.

76. In conclusion, my delegation takes the view that the present draft represents a sound and realistic basis for agreement. While inevitably it does not fully meet the wishes of all delegations here, we believe that it is, in terms of international negotiation, the best available compromise in present circumstances.

CCD/PV.545 p.9

UN/Sec.Gen. Waldheim

29.2.72 CTB

While I recognize that differences of views still remain concerning the effectiveness of seismic methods of detection and identification of underground nuclear tests, experts of the highest standing believe that it is possible to identify all such explosions down to the level of a few kilotons. Even if a few such tests could be conducted clandestinely, it is most unlikely that a series of such tests could escape detection. Moreover, it may be questioned whether there are any important strategic reasons for continuing such tests or, indeed, whether there would be much military significance to tests of such small magnitude.

When one takes into account the existing means of verification by seismic and other methods, and the possibilities provided by international procedures of verification such as consultation, inquiry and what has become to be known as "verification by challenge" or "inspection by invitation", it is difficult to understand further delay in achieving agreement on an underground test ban.

In the light of all these considerations, I share the inescapable conclusion that the potential risks of continuing underground nuclear weapon tests would far outweigh any possible risks from ending such tests.

CCD/PV.546 pp.8-9

Canada/Ignatieff

29.2.72 CTB

So far we must admit that, judging from their public statements, the USSR and the USA are not prepared to resolve their differences about on-site inspection for the verification of a CTB as opposed to reliance on "national means" only. As a result, the rest of us in the CCD have been participating in a dialogue des sourds. Can we honestly expect the two other testing Powers, which are not participating in the negotiations of this body, to take one step toward a CTB if we, in this Committee most expressly required by the United Nations General Assembly to negotiate on this important issue, do not set an example and start negotiating, each trying to influence the other side in the hope of finding common ground, instead of merely reiterating old, outworn positions?

The verification stalemate stems, as we know, from two factors. One is the USSR insistence since 1963 that on-site inspections are unnecessary and unacceptable. At the same time the USA has argued that on-site inspections are necessary to try to clarify ambiguous seismic events that cannot always be classified as either earthquakes or tests by seismological means alone, and to enhance deterrence of possible evasions. This

deadlock has been perpetuated by the reluctance of the two major nuclear Powers to explore the middle ground between themselves and to undertake any serious negotiations in search of a solution.

Technical studies by Canadian experts and by other members of the CCD, including Sweden, the Netherlands and the United Kingdom, have tended to demonstrate that, with improved techniques and equipment for seismological monitoring, the dimensions of the long-standing verification problem have been sharply reduced and that a compromise solution should be possible in principle if both sides were interested in a mutually-satisfactory agreement.

I suggest that we could make progress if we could raise our vision from the admitted possibility of some infringements of a CTB, at least in the lower-yield ranges of test explosions, and concentrate rather on assessing the probability and the significance of such violations. We might recall the conditions prevailing between 1958 and 1961 when a complete testing moratorium was accepted even on the basis of the technically-inferior verification capabilities of the period. At present there would no doubt be a substantial probability of identifying, with the sophisticated national means of discrimination now available, any detected explosions in another country down to explosions of low to low-intermediate hardrock yields - that is, those of real strategic significance. There are other means of information-gathering, moreover, which should not be overlooked, including for example surveillance satellites.

What I am suggesting is that, if progress is to be made in resolving the verification problem, it is necessary to move from an insistence on dogma or any prior condition, such as that of obligatory on-site inspections or of "national means" of verification, to a pragmatic approach and to examine what the totality of available means of monitoring could offer for the verification of a test ban. A fundamental consideration is the extent to which countries would be inhibited from violating a CTB in view of the probable political and diplomatic consequences of being found out. Moreover, a country bent on violating would probably derive little benefit from one or two isolated tests but would have to undertake a series of tests, which would substantially increase the risks of detection.

CCD/PV.547

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Japan/Nisibori

29.2.72

CW

As regards the problem of the prohibition of chemical weapons, it has been pointed out here on several occasions that the solution to the problem of verification is the key to the whole matter. What is most important in connexion with this matter is that there is a basic difference in the views of the United States and the Soviet Union with regard to the effectiveness of on-site inspection as a means of verification. In fact, the United States holds the position that the settlement of the technical problems is a prerequisite to the settlement of the problem of verification, and that no means or combination of means of off-site inspection can be effective for verification. On the other hand, the Soviet Union, taking the position that a political decision is a prerequisite for the solution of this question, argues that it is impossible to find an effective means of verification even by on-site inspection, and that national authorities are the appropriate organ for enforcing and checking compliance with a prohibition of chemical weapons. I should like to point out, however, that the United States has not as yet expressed its final opinion as to what degree and what form of on-site inspection would be sufficient to enable it to enter into an agreement prohibiting chemical weapons; while the Soviet Union has not as yet produced sufficient scientific and technical evidence to support its assertion of the inadequacy of on-site inspection.

My delegation is of the opinion that closer technical study of the questions mention-

ed above would be a desirable step towards finding an effective means of verification. Therefore, with reference to these points, namely whether an effective verification cannot be ensured without on-site inspection, or, if we have recourse to such inspection, what specific extent and form of on-site inspection would be the minimum requirement, or whether no form of on-site inspection can provide an effective means for verification, as the Soviet Union asserts, I wish to request this Committee to organize, once more and, if necessary, again thereafter, an informal meeting in which experts would also take part, similar to the one which was held on the initiative of the Japanese delegation last year.

In this context my delegation is of the view that in holding such an informal meeting it is essential that all members of the Disarmament Committee, especially the socialist countries, including the Soviet Union, should participate in it. Therefore my delegation requests that all members of the Committee, including the socialist countries, will first of all make it clear that they will co-operate in every possible way, including sending experts, to consider the technical aspects of the problem of the prohibition of chemical weapons.

At the 17th session of the Disarmament Committee, held in the summer of the year before last, the Japanese delegation remarked that the detection of chemical agents by improved gas-chromatography techniques could be useful as a possible solution to the technical problem of finding a scientific means of verification, necessary for the prohibition of chemical weapons. In this respect my delegation still feels that this method could be one means of verification. At the SIPRI Symposium in Stockholm last year on possible techniques for the inspection of production of organophosphorus compounds, a number of countries shared this view. We hope that there will be further discussion at an informal meeting of this Committee of the possibility of using the method of detection by improved gas-chromatography as a technical means for verification.

In order to reach a solution to the problem of verification, clear-cut verification procedures must be established along with effective means for verification. Towards that end, therefore, we should first of all make a close study to ascertain which method will enable us to acquire, most easily and with the greatest certainty, the evidence which would constitute adequate grounds for using the complaint procedures when there is reason to suspect violation.

On this point the Japanese delegation the year before last suggested the establishment of an obligatory reporting system covering the quantities of production, imports and exports of specified chemical agents as an appropriate means of achieving this purpose. This system alone might not produce adequate or sufficiently reliable evidence, as has been pointed out by certain delegations. We are prepared, therefore, to study further any other ways of obtaining such evidence.

Now, with reference to procedures for registering complaints, we consider it desirable that a system should be established by which a country which believes that a means of chemical warfare has been used against it will lodge a complaint with the Secretary-General of the United Nations presenting all available evidence, and the Secretary-General will conduct an investigation of the complaint lodged and report to the Security Council on the results of his investigation. This fact-finding survey by the Secretary-General should be carried out with the assistance of an international panel of experts, as has been suggested by my delegation. And we should also study the feasibility of availing ourselves of the services of existing organizations, such as WHO, which has achieved fruitful results in its on-the-spot fact-finding surveys of the sanitary conditions in various countries and in exchange of opinions with regard to health and sanitation matters.

I would, however, want to establish a link of timing with the announcement of news from SALT, coupling a positive agreement there with a ban on underground testing. Members of the CCD who have been negotiating for years to achieve a comprehensive test ban have the right to ask that action be taken on that measure by the testing members of this Committee, thereby matching any bilateral agreement emanating from SALT with an international one. We shall otherwise be forced to interpret their unwillingness to negotiate as an unwillingness to stop testing. But there is perhaps no need to paint such a dark picture. My delegation expects the passiveness which has hitherto characterized the testing members of this Committee to change into positive and constructive interest as soon as a SALT agreement is finally reached. I see no reason why the cessation of underground testing should be delayed in order to await the adherence of all nuclear-weapon Powers to a comprehensive ban on all tests. The tremendous lead in this field enjoyed by the two super-Powers gives them the possibility and responsibility to take the lead also on the road towards an underground test ban.

The ground is well prepared. There even exists a draft text for a treaty to stop nuclear underground explosions (CCD/348), a proposal put forward by Sweden in September last year, as none was forthcoming from our co-Chairmen. Its salient feature is the coupling of the technical and political elements in the control procedure. The first step in the assessment of events will be taken by the use of technical, national means, supported by an international co-operation for exchange of seismometric data. Should need for further clarification arise, a second and political step would be taken by parties to the treaty, using a gradual approach with stages of inquiry. The political part of this control procedure has sometimes been called verification by challenge; it does not exclude, as a last resort, on-site inspections by invitation or mutual agreement.

The hitherto perennial question of control should really not create unsurmountable difficulties. The understanding of the techniques for seismological monitoring has advanced so far that one can now correctly identify a sufficiently large proportion of explosions, so as to obtain an effective deterrence against attempts at clandestine testing. The verification issue can no longer serve as an alibi for the refusal to stop testing. This is the major conclusion to draw.

Also weak explosions can be more satisfactorily monitored. The investments required to improve the present network of observatories would not be large in relation to the issue involved, and they could therefore be made if only the political will existed. In this connexion we note that, since the last session of the CCD, the world's second biggest seismic array station, NORSAR - in southern Norway -, has gone into operation. This will contribute to a still better understanding of the scientific matters involved and also to a considerable improvement of the global detection capability in the years to come. Even with a satisfactory identification of explosions - should they occur when banned - it will hardly be possible to suppress completely the occurrence of false alarms caused by earthquakes. They would, however, be rare occurrences. The challenge procedure advocated by us and incorporated in our treaty proposal will serve as an adequate political instrument for the clarification of the residue of events.

I sincerely request that attention now be given to our suggested treaty text as a basis for negotiation. You can accept it or amend it or refute it! But we cannot possibly let it, and the whole CTB issue, be buried in silence by the testing members of this Committee. They were, after all, requested by a large majority of the Members of the United Nations General Assembly to take an active and constructive part in developing in the CCD specific proposals for an underground test-ban treaty, and to clinch this issue by a positive agreement.

CCD/PV.551 pp.21-22

USA/Martin

21.3.72 CW

The section on verification sets forth a number of considerations on the relationship between scope of prohibitions and verification. It is noted that various possible combinations of chemical weapons prohibitions would be likely, in order to be effective, to require various measures of verification. Comprehensive prohibitions would, by definition, most completely limit chemical warfare capabilities. On the other hand, there may be some factors which would warrant the Committee's consideration of the relative merits of a phased approach.

The verification section reviews various specific verification elements. The possibility of assuring through the use of seals and monitoring devices that chemical weapons activity does not take place at "moth-balled" facilities is one approach that is suggested for consideration.

Given the complexity, and prospects for growth and change in the chemical industry throughout the world, the work programme suggests that consideration might be given to the role that exchange of information on chemical products and facilities might play in verifying chemical weapons limitations.

The usefulness of declarations by countries regarding activities and facilities relevant to an agreement might be examined as one way to emphasize a party's continuing commitment to an agreement and to increase the effectiveness of various means of verification.

The Work Programme examines the prospects for using remote sensing devices, in view of the present level of sensor technology. Since an on-the-scene inspection by technically-qualified personnel may be the most efficient and direct way of resolving a serious question concerning implementation of an agreement, it is suggested in the Work Programme that the possibilities for on-the-scene verification should be considered. Monitoring of imports and shipments of certain chemicals is set forth as another possible verification element which might be examined.

The section of the paper which deals with international organizational considerations discusses questions bearing on possible consultative arrangements, relationship to the United Nations Security Council, and provisions for periodic review.

CCD/PV.551 pp.27-28

Poland/Natorf

21.3.72 CW,CTB

Much time was devoted during the last two years of this Committee's debates to the problem of verification of the observance of an agreement on the prohibition of chemical weapons. In maintaining the position that the most appropriate solution consists in providing for a proper balance between national and international procedures, the socialist States assume rightly that an on-site control system, to be duly effective, must be so largely expanded that both for political and technical reasons it would be unfeasible and unacceptable to a great number of States.

The discussions in this Committee on the question of verification confirm — in our conviction — the correctness of our approach. The effectiveness of methods of verification suggested so far in this Committee or by qualified experts has been questioned even by those favouring detailed verification procedures. For instance, the idea of verification of statistics proposed by SIPRI and in the Japanese working paper (CCD/344) has been qualified by the United States representative as a measure which could only be of ancillary use and alone could not provide an answer to the verification problem (CCD/311). The working paper submitted by the United Kingdom (CCD/308) describes the difficulties and limited effectiveness of observation methods by satellites, atmospheric

sensors and effluent sensors. It has therefore been claimed by some that, since the methods of verification by external means cannot be fully reliable, the verification requirements could only be met by verification on the spot.

As we all know, one of the specific features of the chemical industry is its elasticity in modifying the profile of the production. A plant producing insecticides like Malathion or Parathion can easily produce G and V agents. On the other hand, it is easy to conceal from external control the production of poisonous agents in large chemical plants. An on-site verification would therefore require access to practically all plants. Is such a control acceptable and feasible from the political, economical and technical points of view? Could not such a control organ be transformed into a body collecting secret military and industrial material? The problem of verification is also complicated by the fact that several chemical agents which may have a military use are in fact applied for civilian purposes. For all these reasons and on the basis of the negotiations of the last two years we can only conclude that, if we want to avoid endless discussions on technicalities — which would not bring us closer to the solution of the verification problem — we should be guided by the approach which prevailed with regard to the verification of the prohibition of bacteriological weapons. This approach indicates that there exists a possibility for an optimum solution of the system of guarantees of the observance of the prohibition of chemical weapons. These are some of our preliminary remarks on the scope and verification of the prohibition of chemical weapons.

Nuclear disarmament, and particularly the achievement of a comprehensive test-ban treaty, remains one of the major preoccupations of the Committee. Our delegation maintains that one of the fundamental prerequisites for achieving substantial results in the efforts aimed at curbing and reversing the arms race in the nuclear field is universal adherence to the existing agreements, particularly by all nuclear-weapon States. We should therefore strive for full adherence to the Moscow Test-Ban Treaty of 1963.

From the lengthy discussions held up to now and the various documents, as well as from the views of highly-qualified experts, it is more than obvious that the present scientific and technical level of seismology gives adequate guarantees to distinguish between nuclear events and natural events by national means of detection.

CCD/PV.553

pp.16-25

Japan/Nisibori

28.3.72

CTB

In the documents submitted in the Wood's Hole Conference held in July 1970, experts on seismology stated that, with the advanced seismological means of verification of today, even the low-yield nuclear explosions which have so far been considered impossible to detect and identify can now be detected and identified. An American scientist concludes in this report that under certain conditions even a nuclear explosion of magnitude 3.8 can be detected and identified, and states as follows:

"The discrimination threshold using surface wave data from high-gain, long-period instruments at Ogdensburg, N.J., is $m_b=3.8$ at 30 degrees for events in western North America and 4.4 at 70 degrees for two other source areas."

(Review of Recent Research at Columbia University on the Discrimination of Underground Explosions from Earthquakes, by Lynn R. Sykes.)

This means that it has become theoretically possible to detect even an underground nuclear test of about one kiloton in hard rock. Under these circumstances it is no exaggeration to say that the technical question of verification for underground nuclear tests has been experimentally and theoretically almost solved.

Therefore the delegation of Japan takes the view that a political decision is now most necessary for the solution of the Comprehensive test ban (CTB) problem. As I said

in my previous statement, I welcome Mr. Kurt Waldheim's appeal at the beginning of this session for the achievement of a comprehensive test ban. I should like to urge the United States and the Soviet Union not to repeat their former respective positions without first reviewing carefully the achievements and progress of science and technology of today, and to take concrete measures to reach agreement on a comprehensive test ban.

It is hard to understand the reasons why the two super-Powers are not yet ready to take the initiative to realize a CTB at this stage where verification has become technically possible solely by seismological means of detection and identification, unless they insist on 100 per cent effectiveness. If this attitude of the two Powers is due to military or political considerations which have nothing to do with the technical question of verification, I consider that it may be necessary to study the whole problem from an entirely different point of view. For example, the Federation of American Scientists, which issued last January a statement entitled "FAS calls for a total test ban without on-site inspection", pointed out that the development of new weapons, the retesting of existing weapons and the maintenance of vigorous weapons research might be the reasons for which these super-Powers consider it necessary to continue nuclear tests. As the above-mentioned statement indicated, however, it is certainly possible for the United States as well as the Soviet Union to maintain the reliability of the nuclear deterrent without developing new weapons, because their nuclear capability has already reached the stage of over-kill. Furthermore, the statement claims that "We can design around any uncertainty which may be created in the future by our inability to test old or modified design." Maintaining vigorous research is not an end in itself. In any case I believe that those military considerations cannot be regarded as decisive reasons why underground nuclear tests need to be continued.

Probably some nuclear States' negative attitude towards a CTB has influenced the United States and the Soviet Union to remain lukewarm on this problem. Even if this is the case, the two super-Powers should be the first to show their own firm resolve and positive initiative by unilaterally announcing the total prohibition of nuclear tests which could be effective even for a limited period, since these two States have an overwhelming superiority in nuclear armament over other nuclear States.

However, if the United States and the Soviet Union continue to insist that the divergence between them as to the effectiveness of verification is still the largest obstacle towards agreements on a comprehensive test ban, I should like to stress that, in conformity with resolution 2828 C (XXVI), the two super-Powers should immediately undertake unilateral or negotiated measures of restraint that would limit or reduce the size and number of nuclear-weapon tests substantially.

The Japanese delegation firmly believes that it would constitute one of the most effective and concrete measures of implementing the above-mentioned resolution to prohibit first underground nuclear explosions above a certain scale which can be easily detected and identified by seismological methods, and to expand gradually the scope of prohibition towards the realization of a comprehensive nuclear test ban.

This seismological approach has a long history behind it; and I believe all members of this Committee will be fully aware what problems this idea has to face. In this context I should like to present a view from a new angle as to the concrete measures for the realization of a comprehensive test ban by taking duly into consideration the latest technological developments, thereby stepping up our work on this question.

Before explaining these concrete measures based on the idea that we should start from the prohibition of nuclear tests of more than the specified magnitude which can be detected and identified by seismological methods, I wish to dispel first of all various criticisms which this idea may invite.

First, it may be argued that this approach of starting from a partial ban might retard a comprehensive ban. Some representatives in this Committee have expressed

their concern that the threshold approach may lead us into an intractable situation whereby tests for the perfection of smaller tactical nuclear weapons would continue for a long time to come.

With regard to this question, I am convinced, as I have stated earlier, that the practical and realistic approach by which all disarmament measures are to be implemented step by step, beginning with what is feasible, is the proper method we should adopt. In so far as no agreement has yet been reached between the United States and the Soviet Union on the means of verification for a comprehensive nuclear test ban, it would undoubtedly be more constructive for us to take a temporary measure on the question than to take no measure at all.

Secondly, another possible objection is that this idea will not only legalize but even accelerate nuclear explosions of a magnitude smaller than the threshold, and that there will be then no point in prohibiting nuclear explosions above the threshold.

For instance, the representative of the Soviet Union, Mr. Roshchin, remarked on this question on 6 April last year as follows:

"The prohibition of nuclear tests above a certain threshold would mean that all underground explosions below the established threshold would be outside the prohibition. That would in fact legalize a certain proportion of underground nuclear-weapon tests. Such an approach would hardly facilitate the solution of the problem of a comprehensive nuclear test ban." (CCD/PV.507, para.61)

However, if the United States and the Soviet Union should have particular reasons for making large-scale nuclear tests, we consider that one of the reasons for this is that these tests are indispensable for the development of warheads of strategic nuclear missiles. Therefore, if it is decided that underground nuclear explosions including these large-scale tests which are above the specified threshold should first be banned, then the improvement of the capacity of strategic nuclear-missile warheads in both the United States and the Soviet Union may be effectively checked, thus having deep repercussions in the field of disarmament and arms control.

Also, if it is difficult to achieve by small-scale nuclear tests results which may be obtained only by large-scale tests, as we presume it is, then it is hardly likely that the prohibition of nuclear explosions above the specified threshold will result in accelerating small-scale underground nuclear explosions below such levels.

Thirdly, with regard to underground nuclear explosions near to the threshold, it may be objected that it will be difficult to decide whether the explosion is below the prohibited scale or not. For instance, the representative of the Netherlands, Mr. Bos, stated on 29 April last year as follows:

"It seems difficult to define a threshold exactly, considering the different geological and geographical possibilities, which could lead to all kinds of problems in the interpretation of seismological recordings. In the framework of a threshold test ban, nuclear Powers could be tempted to exploit the possibility of exploding nuclear weapons as near as possible to the threshold. This could easily lead to accusations by other parties; and such a situation would not seem favourable for the political climate." (CCD/PV.512, para.32)

This question, however, will be easily solved if observation instruments of a sufficiently accurate standard are installed beforehand around the testing State, or at some other designated places which are deemed proper, and States concerned have previously reached a definite agreement on technical and procedural matters, as will be mentioned later, so that a unique and automatic decision may be made on the detection and identification of underground nuclear tests above a clearly-fixed level, and on the existence or otherwise of a violation of the obligation. Further, as to the possibility of a nuclear

explosion occurring near the threshold, it is probable that, since the testing State will endeavour to keep the nuclear explosion below the scale which is deemed definitely safe in order to avoid violating its obligations, the possibility of the occurrence of a nuclear explosion near the specified threshold will be staved off deliberately and that the scale of the underground nuclear tests which will be actually made will be kept within that of a considerably low yield.

Fourthly, it may be objected that, by decoupling and in other ways, an explosion which would originally be on a scale above the threshold might be made to appear to be below that scale. I should like to cite here again the remarks of the representative of the Netherlands, Mr. Bos:

"Another example is the seismic decoupling of underground nuclear explosions in cavities. Although it is not clear up to what yields such explosions are technically and economically feasible, it seems that cavity explosions up to considerable yields are possible without violating a threshold treaty because their seismic effects would not exceed that agreed threshold." (CCD/PV.512, para.30)

However, to reduce the magnitude of tests substantially by the method of decoupling would be extremely difficult as a practical matter in the case of explosions above the scale which can be detected and identified by seismological methods. There is a method by which two or more explosions are conducted and artificially made to look like earthquakes. However, in the Wood's Hole Report quoted earlier, an American scientist pointed out that the use of ultra-long-period waves as a discriminating criterion will make it very difficult to make explosions look similar to earthquakes. He said:

"One of the main virtues of using solely long-period discriminants, such as the ratio of 20 to 50 sec. Rayleigh waves, is that it would be very difficult to generate signals from multiple explosions that look similar to those of earthquakes over a broad frequency range."

(Review of Recent Research at Columbia University on Discrimination of Underground Explosions from Earthquakes, by Lynn R. Sykes.)

Fifthly, some representatives hold the view that by concentrating on seismic detection methods alone we tend to disregard other effective means of verification.

However, in the light of the current level of technology we have no reliable means which can be applied to the prohibition of comprehensive nuclear tests other than the seismological one. It is almost certain that countries other than the United States and the Soviet Union do not have, at the present stage, data as to how effective methods making use of an artificial satellite or any other device will be. This is a matter for regret; but still we are in no position to produce reliable evidence as to whether the adoption of these methods would make a comprehensive ban possible at a stroke. Also, in the case of other existing means of verification being improved, or where an unforeseen effective means of verification is newly developed, one can argue that mere adherence to the idea of threshold might only be harmful and get in the way of the attainment of the ultimate goal of a comprehensive ban.

However, as I have already emphasized, the idea of threshold is not everything. At the same time, I should like to point out that this idea is one of the most effective means for the realization of a comprehensive nuclear test ban. It is a matter of course that we must also examine other effective means if we are to detect and identify the nuclear explosions below the threshold, as will be mentioned later. The point is, the study on verification requires much time, while the question of a CTB needs urgent solution. My delegation ardently hopes that all member States will give useful suggestions or proposals at this Committee in order to carry forward our work towards the final goal, the realization of a comprehensive nuclear test ban.

On the basis of the above considerations, the Japanese delegation would like to

advance the following propositions for your immediate consideration.

According to the document distributed by the Canadian delegation at the General Assembly in November 1970, entitled "Seismological detection and identification of underground nuclear explosions" (by P.W. Basham and K. Whithman), it is clear that if we use the 46 seismograph stations, most of which are located in non-nuclear weapon States, out of the 199 stations throughout the world of whose availability each Member State has informed the Secretary-General at the request of resolution 2604 A (XXIV), adopted in December 1969, an underground explosion of magnitude 5 1/4 or more in the northern hemisphere can be detected and identified with 90 per cent probability.

Therefore I hold the view that, as the first phase of implementing resolution 2828 C (XXVI), we should begin with working out measures for restraining underground nuclear explosions of magnitude 5 1/4 or more for which the means of detection has been clarified experimentally as well as theoretically.

With regard to the technical problems to be solved in establishing the network of seismograph stations to observe the restraint of underground nuclear explosions of magnitude 5 1/4 and above, I should like to request that this Committee hold a meeting of experts at the earliest possible date to get the countries concerned, including the United States and the Soviet Union, to reach an agreement on such technical questions as the selection of seismograph stations which will take part in the detection and identification for this purpose and of the specific seismographs with which those stations are to be equipped, a practical method of determining the magnitude uniquely, the method of exchanging data among those stations, the designation of co-ordinating centres for collecting and keeping the data which will be sent from those stations and methods of preventing the intentional alteration of the observed data. Also I should like to propose that, as soon as agreement is reached on such technical problems among the countries concerned, the United States and the Soviet Union undertake to restrain themselves from conducting such nuclear tests as would cause a seismic wave of magnitude 5 1/4 or above that may be recorded on the aforesaid seismograph network.

Now, it will take some time to establish the aforesaid network of seismograph stations, since agreement is needed among the countries concerned as to the necessary technical questions. However, I take the view that, since the problem of a large-scale underground nuclear test ban is an urgent one which awaits our immediate attention, measures should be taken immediately by the United States and the Soviet Union with regard to underground nuclear tests on a scale larger than the specified one in respect of which hardly any preliminary arrangements will have to be made for the means of verification. Towards that end we request, as a temporary measure and on the basis of a tripartite seismograph network comprising, for instance, seismograph stations in Canada and Japan and one in Europe, say in Sweden, that both the United States and the Soviet Union declare that they will no longer conduct any underground nuclear test which may record a seismic wave of magnitude 5 3/4 or above on the short-period seismographs in at least two of the three stations of the network: that is, the Matsushiro station in Japan and two other major stations, in Canada and in the country in Europe to be agreed upon. Such a seismograph station located in Canada, Japan or Europe could detect and with extremely high probability identify a nuclear explosion of magnitude 5 3/4 or above conducted within the territory of the United States or the Soviet Union. Therefore I must emphasize that, if the United States and the Soviet Union are prepared to take such measures of restraint and if the co-operation of the countries concerned to participate in the work of detection and identification can be assured, such an undertaking can be put into practice even as early as tomorrow. Also, if underground nuclear tests of magnitude 5 3/4 or above are to be stopped, almost all of the large-scale nuclear tests conducted by the United States and the Soviet Union last year and this year can no longer be carried out.

It is a matter of common knowledge that remarkable progress has been made in the technique of observing seismic waves in the last two or three years, that it is most effective to employ waves with a period of about 40 seconds, and that a special high-gain seismograph for such long-period waves has been developed. Observations by this high-gain, long-period instrument have already been started in several places over the world. As a result it has been made clear that there is a very high possibility that the necessary data for discriminating underground nuclear explosions from earthquakes will be gained for an underground event of a magnitude smaller by one unit than at present. Also it has been ascertained that the discriminating criterion is valid for events much smaller in magnitude than we had anticipated until a few years ago, and the threshold of verification by seismological means may be expected to be reduced further to the level of $4 \frac{1}{4}$ in magnitude in the near future. This implies that all nuclear explosions of several kilotons in hard rock will be able to be detected and identified. In view of this fact I wish to propose that the technical study of the strategic deployment of this high-gain, long-period seismograph should be started immediately.

I have requested above that, for the early realization of the comprehensive prohibition of nuclear tests, the United States and the Soviet Union agree as soon as possible to start the prohibition of underground nuclear tests which are above a specified magnitude and for which we have means of detection at present. On the other hand, however, as I have already reiterated, we should quickly work out effective measures for the prohibition of underground nuclear tests of a magnitude below the specified one, and of a magnitude below $4 \frac{1}{4}$ in particular, for which a method of verification has not as yet been established. Fortunately, many proposals have so far been made at the Conference of this Committee with regard to methods of detecting and identifying tests of a magnitude below the threshold whose definite detection and identification are not possible at present only by the teleseismic observation system.

The first is the combined use of a seismological near-site and a teleseismic observation system. The installation of an automated seismic station or so-called black box is typical of this method. In addition, installation of an ocean-bottom seismograph, suggested by the Japanese delegation last year, may also offer an effective means for detection and identification, since the ocean bottom is generally quieter than land and more suitable for the detection and identification of nuclear tests; and furthermore the installation of the apparatus in the ocean bottom is less liable to intrude on the territory of another State than that on land, so it may be considered more acceptable to certain States.

The second is the combined use of on-site inspection in some way or other. Two methods may be considered in this respect. "Inspection by invitation", proposed by the representative of Sweden, Mrs. Myrdal, is the one which admits on-site inspection only when a suspicious event has occurred. Another solution is to make inspections with a specified frequency, irrespective of whether any suspicious event occurs or not.

The third is the detection and identification of the underground tests by a reconnaissance satellite. No States other than the United States and the Soviet Union, which are actually launching such satellites, have any concrete and detailed information about this matter. But it is reported that the capacity of these satellites is very high and they are therefore of considerable use as a means of detection and identification of underground nuclear tests. As information is available to no countries other than the United States and the Soviet Union, I hope they will furnish us with detailed reports on this point. The Japanese delegation strongly hopes that this Committee will immediately examine such technical questions and thereby pave the way for the earliest possible establishment of agreement on a comprehensive nuclear test ban.

Laying major emphasis on technical questions, I have stated above that we should realize a comprehensive nuclear test ban step by step, beginning with the prohibition of

underground tests of a magnitude larger than the threshold which it is now possible to detect and identify with certainty by the teleseismic observation method, the United States and the Soviet Union should commence negotiations as early as possible to realize a comprehensive nuclear test ban, duly taking into consideration the useful suggestions and proposals made by many States. In this connexion I want to emphasize here specifically that the idea our delegation has advanced above bears close resemblance to the one which was discussed at the Geneva Conference on the Discontinuance of Nuclear Weapon Tests held in 1960, and on which a consensus of opinion was almost reached between the United States, the United Kingdom and the Soviet Union -- that is, the idea that a treaty should ban tests in all environments excepting the underground tests below the seismic threshold of 4.75, and that the Powers concerned will conduct common researches on the detection of the small-scale tests, during the course of which they will voluntarily suspend all testing below the threshold of 4.75. Final agreement was not reached between the Powers concerned; but I am convinced that the kind of approach suggested by these three Powers will enable us to take measures very close to a comprehensive nuclear test ban, in the light of the subsequent remarkable progress made in the seismological techniques of detection and identification, and also of the result of assiduous research by experts of many countries on other effective means of verification.

I wish to point out also that the installation of a seismograph network for detection and identification even for a partial underground nuclear test ban will mean preparing now in advance the seismograph network for detection and identification which will be needed when agreement is reached on a comprehensive nuclear test ban.

CCD/PV.554

pp.13-15

Hungary/Komives

6.4.72

CW

Articles IV, V, VI and VII of the draft convention set out in detail the measures the purpose of which is to ensure the strict observance of commitments to be undertaken by the Parties. Article V suggests measures designed to help the observance of those commitments. It envisages consultations and co-operation among the Parties with a view to solving any problem which may arise from the implementation of the Convention, and leaves it to the Parties to decide on the principles or the extent of such consultations in accordance with the needs arising from the process of fulfilment. "Consultation and co-operation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter."

These articles, including article VI, correspond in substance to similar articles in the Convention on the prohibition and destruction of bacteriological weapons. When drafting that article the co-sponsors started from the principle that questions which have a direct bearing on the security of the Parties should be taken to the Security Council of the United Nations. Thus the Parties could make proper use of the Security Council's power, by which it can enforce the necessary resolutions. Using that power, the Security Council could initiate such investigation as might seem necessary and corresponding to the nature of a possible complaint.

The co-sponsors are well aware that certain delegations nourish some doubts about the Security Council in connexion with safeguard measures, because of the practical realization of the principle of unanimity of the Permanent Members. However, we must set out from political realities. It may be possible in theory to draw up a security system which is more perfect than the present one established in the Charter; but we must admit that so far nothing better could be worked out.

The co-sponsors are convinced that the verification system included in their draft

convention is realistic, practical and corresponding to the aims of the proposed instrument, like that in the Convention on bacteriological weapons. We believe it is necessary to work out a system of verification; but it is no less necessary — if I may quote the words of the Charter — "to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained".

The provisions of article IX create a proper basis and give the necessary assurances of the use of scientific and technological discoveries in the field of chemistry only for peaceful purposes and for the benefit of the whole of mankind. By the first paragraph of that article the Parties "undertake to facilitate ... the fullest possible exchange of equipment, materials and scientific technological information", and have the right also to participate in such exchanges.

We believe that the inclusion of this article in the draft convention could serve to promote co-operation of that kind between the States Parties to the Convention. When drafting this article the co-sponsors paid due attention to the actual conditions of the economic and legal systems of individual States and groups of States, and even tried to reflect the existing differences in those fields. It is evident to us that the methods of any such common activity can be explored and translated into practice in full co-operation, as is envisaged also in article V.

The stipulation contained in the second paragraph of article IX is closely connected to the first paragraph, and clears the ground unequivocally by eliminating any chances of misunderstanding or misinterpreting the prohibitions contained in the convention. Thus article IX serves an important dual purpose: on the one hand it further specifies the scope of the prohibition to be undertaken by the Parties, while on the other hand it further extends the scope of peaceful scientific and technical co-operation among the Parties, which may have special significance for developing countries. The implementation of these provisions could well serve to deepen mutual trust among States; and in this context I wish to recall what was emphasized in Working Paper CCD/299, submitted by the delegation of Czechoslovakia on 6 August 1970:

"If the question of verification is not to become an artificial brake of the treaty by bringing in complicated technical problems, it is necessary that the parties to the treaty should agree upon such a procedure which would be based on a certain degree of trust."

Finally, I wish to point out that article IX is in full harmony with the Declaration on Social Progress and Development which the General Assembly adopted on 11 December 1969.

CCD/PV.555 p.9

Egypt/El Sayed El Reedy

11.4.72 CTB

In the course of this session, as in the previous sessions, many speakers have eloquently and most convincingly explained that the issue of verification can no longer be considered as a valid difficulty in the way of working out a comprehensive test ban. A verification system can safely be established with no need for on-site inspection. National means of verification could be entrusted with the task of detection and identification of underground nuclear tests. This should be complemented by an international exchange of seismological data, in which all countries would have the possibility of obtaining rapidly and without difficulty data that are of particular concern to them.

The treaty should also provide for some form of verification by challenge, mention of a review conference, and the traditional withdrawal clause.

All these measures are within the domain of the possible, provided the political will exists, as has been pointed out by the Secretary-General when he addressed the

Conference on 29 February. He stated: "No other question in the field of disarmament has been the subject of so much study and discussion as the question of stopping nuclear weapon tests. I believe that all the technical and scientific aspects of the problem have been so fully explored that only a political decision is now necessary in order to achieve agreement."

CCD/PV.556 pp.16-17

Sweden/Eckerberg

13.4.72 CW

A convention prohibiting the development, production and stockpiling of all chemical weapons and prescribing their destruction will, when agreed upon, be an important element in a treaty structure, serving the purpose of preventing the use in armed conflicts of biological and chemical agents of warfare. The basis of this structure is the Geneva Protocol of 1925, which in our view already outlaws the use in war of all biological and chemical weapons without exception.

Even if there exists a degree of consensus concerning the comprehensive goal of C-disarmament to be attained, we all know that the difficulties in the C-field are considerable. The Work Programme presented to us by the United States delegation (CCD/360) is also proof of this. The Swedish delegation still holds the view that the Committee should organize its work towards a comprehensive treaty in stages, in order to make it more manageable.

Large stocks of chemical weapons exist today, and many nations possess knowledge of how to manufacture and use them. A right for the parties to a C-convention to engage in certain verification measures is therefore indispensable, in order to give them reasonable assurance that agreed obligations are complied with. Let me try to explain what the Swedish delegation is aiming at.

The representative of Czechoslovakia, Mr. Lahoda, at our last meeting referred to the terms conditional and unconditional prohibitions in a way which makes me fear that my delegation has not succeeded in clarifying what we mean when we use those terms. There are different chemical agents from the point of view of weapons purposes. Of these militarily-interesting chemicals some have no civilian use -- their production should be unconditionally prohibited. Others have recognized peaceful uses. Their production will of course continue. It is their production for weapons purposes which will be prohibited, in other words a conditional prohibition. That is what we mean when we use those terms.

Verification is especially important with regard to chemical agents the production of which should be unconditionally forbidden. Quite another problem is the verification of the conditional prohibition concerning production etc. of substances having peaceful uses. In the case of these substances the need for international verification should not be over-emphasized, inter alia against the background of present intensive developments concerning the national and international regulations of the handling and use of chemical agents. I am of course referring to environmental, food and drug control, etc. However, we feel that it would be valuable to have these questions more thoroughly explored and presented to the Committee. The prohibition concerning these substances which also have recognized peaceful uses might be covered by a general article in a treaty text, perhaps similar to CCD/361, without detailed provisions for verification. The national control could be supplemented by statistical reporting by the parties to an international agency and, in the final instance, by a complaint procedure.

In this connexion, I should like to repeat that the Swedish Government does not consider the control and complaint formula of the B-convention as a suitable precedent for the C-field, primarily because the control problem regarding chemical weapons is even more important. And -- as Mrs. Myrdal emphasized once more in her statement on

14 March this year — in the B-Convention the technical investigation has been made dependent on a decision in the Security Council instead of preceding a complaint to the Council. Partly in reply to the statement of the representative of Hungary, Mr. Komives, of 6 April, I should like to explain that in our view this problem is of a twofold character. The first element is a question of fact of a possible violation, to be investigated by an objective method, preferably by the Secretary-General or some other United Nations organ, but preceding a complaint to the Council. The other element is the assessment of the facts that have thus been established, possibly involving a judgement. This is clearly a matter of political importance, for which no other organ than the Security Council can be competent.

My Government's assessment of the B-convention will therefore be influenced by what will take place in the Security Council when, in the near future, it will take up the draft resolution on various aspects of a practical nature concerning the complaints procedure.

Returning to the C-field and the super-toxic agents which have no significant civilian use, my delegation believes that a convention text must include specific references to them and special provisions for the control of their production, etc. It should be a priority task of our Committee to agree on such references and provisions. As is evident from what I said a moment ago, this naturally does not mean that the Swedish delegation proposes to exempt the large category of what is referred to in CCD/360 as "dual purpose agents" from a prohibition for weapons purposes. However, it seems clear to us that the development, production etc. of the super-toxic agents, which have an almost exclusive use as potential means of warfare, require closer international attention than the case of the more common and less toxic agents.

CCD/PV.557 pp.8-9

UK/Hainworth

18.4.72

CW

We also find that the Soviet draft contains no provision whatsoever for verification. I have already referred, in my observations on the risks of escalated response, to what must be the strongest reason for thinking that any ban on possession of chemical weapons must be adequately verified. And during previous sessions many papers and statements on the subject of CW verification have been put forward in this Committee. It was in the light of these that the non-aligned working paper CCD/352 referred to a requirement for verification of the elimination of chemical weapons comprising a mixture of national and international means. Soviet acceptance of this requirement was acknowledged by the Soviet vote in favour of United Nations General Assembly resolution 2827 (XXVI), which requested the Committee to take into account this point of view. The draft in document CCD/361, however, appears to ignore this point altogether. It was always a central point of the British thesis, which came to be accepted by the Committee and subsequently by the United Nations, that, because of the special nature of biological weapons and the current stage of their development and deployment, it was possible to conclude an agreement immediately banning their production and stockpiling without any verification. It was possible in the unique case of biological weapons to rely upon a complaints procedure to deter any would-be violators. Let us be quite clear: a complaints procedure is not verification, nor is provision for consultation between States. My delegation entirely agrees with the remark made by the representative of Sweden, Mrs Myrdal, on 14 March, when she said:

"Above all, we do not regard the control clause in the B-Convention as a suitable precedent. The task now faced by our Committee is to establish a more satisfactory formula for the whole control and complaint system of a C-Convention." (CCD/PV.549, p.11).

As long ago as 18 August 1970 the British delegation, in working paper CCD/308, suggested that verification of a CW agreement covering the production, testing, and stockpiling, as well as use, of chemical weapons would need to be extremely reliable before the risk of entering into such an agreement could be reduced to an acceptable level. I am not aware that the Committee contradicts this view. We suggested that to ensure compliance with any chemical-weapons agreement one might need to verify, to an acceptable level of risk, all or any of the following:

(a) that existing weapons or their component parts have been destroyed and/or that no such weapons or component parts are held;

(b) the absence (or cessation) of production of chemical weapon agents at declared facilities;

(c) the absence of any undeclared production, testing and storage facilities.

Neither the working paper CCD/361 nor the statements made introducing it have given any indication as to how these requirements can be met. It is, however, essential to verify that banned activities are not being carried out, and that specified procedures are being followed. I see not the remotest acknowledgement of this in document CCD/361. The provision of machinery for complaints of violation might have a deterrent effect, but it could not conceivably give the level of continuing assurance which we should require in a ban on chemical weapons which would oblige States to deprive themselves of the ability to retaliate in kind.

May I interject here the thought that this is a point of particular significance for what I may perhaps be allowed to call medium and smaller Powers? If chemical weapons were used, in violation of a treaty, against a super-Power which had conscientiously divested itself of the weapon, that super-Power would still have a vast spectrum of other weapons available for retaliatory purposes. Not so a medium or smaller Power, whose interest in adequate verification that there had been no contravention would thus be the greater.

I wish to make one further point with regard to verification in relation to the Soviet draft. It has been suggested by the representative of Poland (CCD/PV.551, p.28), that a demand for adequate verification measures is equivalent to a request for espionage facilities. It should be possible to devise safeguards for any international system of control which would minimize the risk of abuse. But there is a point here which the Committee has got to face: the absence of verification could afford opportunities to cheat. In the context of chemical weapons, the Committee has to consider which of these two — the danger in some minds of adequate verification, or the possibility of cheating — poses the greater threat to mankind.

CCD/PV.557 pp.18-19

Brazil/Guerreiro

18.4.72

CW

The question of verification and control of a prohibition of chemical weapons is indeed more complex than was the case with the prohibition of biological means of warfare. Efforts towards the detailed examination of certain technical aspects involved should be continued, although not at the cost of delaying unnecessarily the conclusion of agreements on this matter.

In this task, we should bear in mind the basic approach to the issue of verification originally submitted by the Group of Twelve in document CCD/310 and later incorporated in resolutions of the General Assembly and reiterated in the Group of Twelve Memorandum on chemical weapons of 28 September 1971 (CCD/352):

"Verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure effective

implementation of the prohibition."

The system of verification for chemical weapons need not be airtight; it should encompass reasonable guarantees and safeguards so as to ensure confidence in the implementation of any agreement in this field. Any disarmament agreement must inevitably entail at least some risk of its violation. Procedures of verification and control can never be perfect, and parties to such an agreement must always rely to a considerable degree on factors not directly related to the provisions of the legal instrument itself, factors such as the existence of a political climate of confidence, or the nature of the risks involved in any violation of the agreement.

This is not the first time we have to deal with a situation in which the same substance or product can be used both for peaceful and for military purposes. We understand it to be a principle of general applicability in all disarmament agreements that the goal of prohibiting military use should in no manner serve as a pretext for the establishment of restrictions on peaceful uses and on research and development for peaceful purposes. The determination of the military character of these substances or products is normally difficult and can, in fact, only be based on objective indications of intention and on technical elements which may only be detectable in the final stages of the process of production of the weapons. As a matter of fact, it might be said that any country that possesses a reasonably developed chemical industry has the possibility of preparing an arsenal of chemical weapons. Whatever the controls, there is always a residual risk we have to take if we are to achieve an agreement on the prohibition of these weapons. The case of biological weapons is similar in many respects, although there is an added element of security in the fact that certain unresolved difficulties related to the actual employment of biological weapons would appear to act as strong deterrents against their use. I also believe, to give another example, that there is a considerable degree of coincidence between the general problems of verification of a chemical-weapons prohibition and an eventual prohibition of nuclear weapons. And the difficulty lies in the same fact: that all peaceful uses, without exception, should be permitted, and all diversion for military weapons as such forbidden.

CCD/PV.557 pp.22-26

USSR/Roshchin

18.4.72 CTB

...In this matter we proceed from the assumption that modern science and technology have reached a level of development where it is possible to verify with the aid of national means of detection and identification of underground nuclear explosions whether States are complying with the obligations they have undertaken to end underground nuclear explosions. In this connexion we would emphasize that the efficacy of national means of verification is becoming more and more widely recognized both among members of the Committee and outside it.

The ever-growing importance of seismic means of detection of underground nuclear explosions has been repeatedly emphasized by Mrs Myrdal, the representative of Sweden, in her statements to the Committee. At the current session she has again raised this question, stressing the vital importance of such means. She has said:

"The understanding of the techniques for seismological monitoring has advanced so far that one can now correctly identify a sufficiently large proportion of explosions, so as to obtain an effective deterrence against attempts at clandestine testing. The verification issue can no longer serve as an alibi for the refusal to stop testing". (CCD/PV.549, p.10)

The possibility of solving the question of the cessation of nuclear weapons tests on the basis of national means of detection was also referred to by Mr. Ignatieff, the Canadian representative, in his statement. He said:

"At present there would no doubt be a substantial probability of identifying, with the sophisticated national means of discrimination now available, any detected explosions in another country down to explosions of low to low-intermediate hardrock yields — that is, those of real strategic significance." (CCD/PV.546, p.9)

An analysis of the situation with regard to guarantees for the fulfilment by States of their obligations concerning the cessation of underground nuclear weapon tests inevitably leads to the conclusion that the efficacy of existing means of verification has increased sufficiently to provide a basis for an agreement on the prohibition of all such tests. What is therefore required above all now is an appropriate political decision. This aspect of the question was emphasized by Mr. Waldheim, the Secretary-General of the United Nations, when he spoke at the opening of the current spring session of the Committee on Disarmament (CCD/PV.545, p.9).

In fact, the negotiations on underground nuclear weapons tests have thrown light on the basic aspects of this problem. To embark on more studies would merely further delay solution of the problem of prohibiting underground nuclear explosions. This is why we have doubts regarding the proposition of Mr. Martin, the United States representative, that "more work needs to be done with regard to the still unresolved technical aspects necessary for effective and reliable verification". (CCD/PV.545, p.16)

The possibility of solving the problem of prohibition of nuclear weapons tests with the aid of national means of detection is recognized in the United States of America itself, although that country's official position still obstructs the conclusion of a comprehensive agreement on the cessation of such tests. Many United States scientists have advocated the conclusion of an agreement comprising the use of national means of monitoring; they have convincingly demonstrated that existing possibilities of detecting and identifying underground nuclear explosions provide a reliable guarantee that States will fulfil their obligations under such an agreement. Many of these scientists have held or are holding senior government posts and are therefore competent to judge why the United States refuses to agree to the prohibition of underground nuclear tests on the basis we propose.

In January 1972 a group of prominent United States scientists, such as Herbert York, Morton Halperin, Marvin Goldberger, Herbert Scoville, Franklin Long, George Kistkowsky, George Rathjens and Adrian Fisher, the former Deputy Director of the Arms Control and Disarmament Agency, published a statement saying that "The United States should now seek to negotiate a treaty banning all underground nuclear tests without requiring on-site inspection." (FAS Newsletter, vol.24, No.10, January 1972). This statement also says:

"Much of the opposition to the test ban treaty in the United States does not arise from fear of Soviet cheating. It springs from the desire to continue American nuclear testing in order to develop new weapons, to retest existing weapons and to keep our laboratories vigorous." (ibid.)

A little earlier, in July 1971, the Senate Subcommittee on Arms Control discussed the prospects of comprehensive agreement for the prohibition of nuclear tests. On the basis of this discussion, a report was prepared which says:

"Enormous advances have been made in seismology so that it is now possible, through seismic means alone, to identify underground explosions to a degree unknown five years ago... These advances would seem to justify, indeed require, a reassessment of the United States position regarding on-site inspection." (Prospects for a comprehensive nuclear test ban treaty, Washington 1971, p.1)

Another noteworthy opinion concerning the position of the United States on underground nuclear weapons tests was expressed in a letter sent on 14 July 1971 by the

former United States representative at the Geneva negotiations, Mr. Wadsworth, to the United States Sub-Committee on Arms Control and published in the "Hearings before the Sub-Committee on Arms Control, International Law and Organization, July 22 and 23, 1971", pages 5-8. In that letter Mr. Wadsworth says that the question of "effective inspection" is merely a "smoke-screen" to justify the underground nuclear testing programme for military purposes.

Thus from numerous competent opinions and arguments we may deduce that the necessary basis now exists for the prohibition of underground nuclear weapons tests with the aid of national means of verification. What is missing, however, is a willingness of the United States of America to accept such a prohibition. By continuing to insist on compulsory on-site inspection to verify compliance with the agreement, the United States is blocking a solution of this important problem.

The USSR, in its desire to settle the problem of underground tests, expressed its willingness to take part in an international co-operative effort for the exchange of seismic data as an additional guarantee that States will observe an agreement for the prohibition of underground nuclear weapons tests. The Soviet side, in advocating such co-operation within the framework of an underground test ban agreement, has had in mind verification of compliance without any international inspection. Seismic data would be exchanged on a voluntary basis and would be evaluated not by an international body but by each State for itself. Even this step by the Soviet side, however, did not lead to a solution of the problem. The United States did not desire to put an end to underground tests and expressed no willingness to come to an agreement on the foregoing basis.

During the discussion of the problem of prohibiting nuclear weapons tests, the Canadian and Japanese delegations supported a partial or intermediate solution designed to limit, in the first instance, the magnitude and number of such tests by nuclear Powers. These delegations propose that in the first place "large-scale" nuclear weapons tests should be prohibited. Thus the Japanese representative proposed that a "threshold" of magnitude 5.75 should be established, above which such tests should be prohibited forthwith (CCD/PV.553, p.21 *et seq.*). This proposal is not new. It differs from similar proposals previously submitted to the Committee only by a higher "threshold" of magnitude. It is significant that this higher "threshold" was proposed at a time when, in the words of Mr. Nisibori, "the outstanding progress made in science and technology in the present-day world enables even small-scale underground nuclear tests to be detected and identified solely by this seismological means" (*ibid.*, p.15). The Soviet delegation fully defined its position on the proposals for partial measures in a statement at the Committee's last session (CCD/PV.536, pp.8-20).

We understood the desire of countries to settle the problem of prohibiting nuclear weapons tests as soon as possible and therefore agreed at the time to the Egyptian proposal for the prohibition of underground tests above a "threshold" of magnitude 4.75 in conjunction with the declaration of a moratorium on tests below that "threshold". The Egyptian proposal might, in the view of the Soviet Union, serve as a basis for the solution of the problem of banning all underground nuclear weapons tests. But the partial measures now being proposed, which leave nuclear tests below the "threshold" of magnitude 5.75 outside the scope of the prohibition, would not contribute to a solution of the problem as a whole or remove the dangers inherent in the improvement of nuclear weapons. Moreover, the establishment of a "threshold" of magnitude would give rise to serious technical difficulties of determination of the magnitude of explosions within the range of the established "threshold". Endless disputes and conflicts between States would be caused by the question whether a particular explosion was covered by the prohibition or not. For all these reasons an agreement on a partial prohibition of underground tests would not only fail to promote better understanding among States but might, on the contrary, lead to a deterioration of the international climate.

On that question the Soviet delegation shares the views expressed by Mr. Banerjee, the Indian representative, who had this to say on "partial measures" for the prohibition of underground nuclear weapons tests:

"Suggestions for the so-called measures of restraint are only superficially attractive. They could only create an illusion of progress and would result in a legitimization of certain categories of nuclear-weapon testing. A partial approach would be inadequate, unworkable and dangerous. There should be a truly comprehensive approach to the question of a comprehensive test ban". (CCD/PV.552, p.9).

This opinion is shared by other delegations to the Committee. Thus Mr. Khattabi, the representative of Morocco, said on 11 April:

"...any partial agreement based on a gradual reduction in underground testing or on what is called the "threshold method" is bound to entail further military, technical and political complications and thus help to delay unnecessarily the final solution of this problem". (CCD/PV.555, p.15)

The Soviet Union's approach to the partial prohibition of underground nuclear explosions coincides with the views expressed by the representative of India and several other delegations in the Committee on Disarmament. The Soviet side considers that compliance with obligations regarding the complete prohibition of underground nuclear tests can be reliably verified with the aid of national monitoring means, if the parties concerned are prepared to adopt an appropriate political decision. We cannot accept the ideas proposed to us for the purpose of filling the vacuum created by the unwillingness of certain Powers to take a political decision for the cessation of nuclear weapons tests.

CCD/PV.559 pp.7-10

UK/Godber

25.4.72 CTB

In my previous experience in this Committee one of our main preoccupations was the problem of nuclear weapon tests. And I look back with pleasure on my own participation in the negotiations which led to the Partial Test Ban Treaty of Moscow in 1963. That was the first and one of the more important achievements of this Committee; and it is therefore with special interest, mixed with continued concern for progress in this area, that I introduce today a Working Paper on some technical problems in seismology, a paper which is relevant to the whole complex of problems of the verification of a complete prohibition of nuclear weapon tests.

The purpose of this Working Paper is to make clear the view of the United Kingdom delegation on the limits of our ability to make accurate estimates by seismic means of the yields of nuclear explosions, and to put forward for consideration a graph which you will find annexed to the Working Paper and which will enable the yields of underground nuclear explosions to be estimated from surface wave magnitudes provided by seismologists.

The Working Paper deals with the relationship between seismic magnitude scales and explosion yields, and explains the difficulty of arriving at a consistent relationship between them and thus relating the detection and identification thresholds — expressed as magnitudes — of a given recording system to explosion yields. The paper resumes the history and development of the various scales used for measuring the relative sizes of earthquakes, culminating in the unified (m_b) scale of Richter and Gutenberg, which has been in common use for comprehensive test-ban discussions since 1958 and which is now almost always based on the measurement of short period body waves. It goes on to analyse specific examples of problems arising from the attempt to use this m_b scale to estimate yields of nuclear explosions. I must say the results are somewhat startling. We

find, for example, that the seismic magnitude of the 26 kiloton "Gasbuggy" shot in New Mexico as recorded as Eskdalemuir was larger by 6 decimal points on the scale than that of "Rulison", a shot of 40 kilotons which took place in Colorado. On this evidence the Richter m_b scale seems an imperfect instrument for estimating the yields of explosions in different locations. As the paper states, it is at present "almost impossible to estimate the relative size of explosions from m_b unless they are fired at one site and compared at one station".

The final section of the Working Paper is devoted to outlining an alternative yield-magnitude relationship, based on the use of surface wave magnitudes (M_s). Analysis shows this relationship to be very much more consistent over the whole range of yields than are m_b values. The curve which plots the analysis will enable delegates to do their own calculations of yield from published M_s figures. Of course there is a drawback to this method: that it can be applied only to those larger explosions for which surface wave records are available. In the case of low yield explosions, surface waves are not always detected at teleseismic distances. Nevertheless the M_s curve is, I think, a valuable tool of analysis and should help to provide that secure technical basis on which our discussions should be founded.

In my mind there is no doubt that decisions on the subject of an underground test ban can only be taken in the light of full knowledge of the technical methods of detection and identification available to us. An agreement on the prohibition of underground testing would be effective only to the degree that the parties to such an agreement could be assured that the prohibition was being observed. The Soviet delegation has for many years, I know, held the view that national means of detection and identification are sufficient to provide the degree of assurance required. Such a view is presumably based on technical information available to the Soviet authorities. Unfortunately, however, to date the Soviet delegation have not felt able to share with the Committee the details of this technical information to substantiate this view. At the same time the Soviet Union has in recent years insisted that the subject of on-site inspection is not one the Committee should pursue. I am bound to recall in passing that when I last took part in these discussions they were willing to contemplate very small numbers of on-site inspections, but I recognize that every country has the right to change its view with the passage of time.

Progress will be made, not by wishing away technical problems, but by examining all the paths, political and technical, that could lead to our final goal. In this connexion I was particularly interested in the thoughtful and comprehensive set of proposals put forward on 28 March by the representative of Japan. These proposals are of course being studied carefully by our experts in the United Kingdom; but in the meantime the paper which I am presenting today has direct relevance to some of the problems presented by the Japanese approach to a staged threshold treaty.

I am in no doubt that we must also continue to extend our scientific knowledge of the possibilities and limits of seismology. There is still a considerable amount of work to be done on the detailed arrangements for verifying an agreement to prohibit underground nuclear weapons testing. Here I note the undertaking given by the representative of the Soviet Union last Tuesday to take part in the international exchange of seismic data within the framework of an agreement prohibiting underground nuclear weapon tests. Such a declaration of willingness is welcome; but further participation in the discussion of how in practice the exchange of seismic data would best be carried out, and clarification of the basis on which States would contribute data, are now what we need.

It is the United Kingdom's view that no one State should have to rely purely on its own means of detecting violations to an agreement which could be vital to its national security. As a minimum a structured system of exchange of national seismic information

will also be necessary. It will be clear from the Japanese statement to which I have just referred that the level of detection and identification of such an international seismic exchange scheme will depend on the number of countries participating in it and the standard of equipment which they use. It will depend also on the effectiveness of the system adopted for the collation and transmission of data. This is a subject on which research is under way in the United Kingdom in pursuance of the ideas put forward in our Working Paper CCD/296 — ideas which I commend to this Committee as still significant and valid. This is an area which requires further study.

Other issues which I think need to be faced are those of availability of data and definition of events. We need to examine the nature of the assurance of the availability of seismic data to participating countries, and the extent of the problem that arises if certain "inconvenient" data are simply not made available. Any individual nation will need to be entirely satisfied that no data are withheld or altered. We have also to consider what criteria to adopt in determining for the purposes of a treaty-verification system whether a particular event was an earthquake or an explosion (and if an explosion whether nuclear or chemical). I need hardly underline the importance of precise and unambiguous descriptions in an area of such vital security importance.

CCD/PV.559 pp.11-15

Japan/Nisibori

25.4.72

CW

Today I should like to present my delegation's views on the question of the prohibition of chemical weapons. During the course of the present session of the Conference, two working papers have been submitted on this important question: the one tabled on 21 March by the representative of the United States, Mr. Martin (CCD/360), and the other introduced by the representative of the Soviet Union, Mr. Roshchin, on 28 March (CCD/361).

The United States paper deals with a Work Programme regarding negotiation on the prohibition of chemical weapons. In so doing it sets forth some of the most important considerations that are relevant to the question of the prohibition of chemical weapons, and focuses its attention on the interrelationship between the scope of prohibition and the potential of various approaches to verification.

As has been pointed out by many delegations, the question of verification is the key to the solution of the question of the prohibition of chemical weapons. It is our considered opinion that the question of verification of chemical weapons is far more important than in the case of biological weapons.

Let me also take up the case of a comprehensive test ban. Apart from the fact that the number of countries conducting nuclear weapon tests is very limited whereas the number of countries actually producing or having the capacity of producing chemical weapons is very large indeed, all of us know that at least there exists a concrete means of verification of underground tests, that is to say, the seismological means of detection and identification. At present we know of no such equivalent means we can rely on for the verification of the prohibition of chemical weapons.

It is for this reason that my delegation appreciates the valuable contributions by the United States delegation contained in the working paper. The points raised in that paper merit a very careful study by all of us, both in the Conference and in its informal meetings with the participation of experts.

Turning now to the draft convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction contained in document CCD/361, I must say to my great regret that we fail to find adequate provisions of verification on the effective prohibition of chemical weapons. It is still fresh in our memory that we in the Conference decided last year to concentrate on the formulation

of a biological weapons convention precisely because of the fact that we could not agree on the question of verification, which we had to settle if we were to prohibit chemical as well as biological weapons at the same time.

Has there been any breakthrough in the means or techniques of verification in the field of chemical weapons? As far as we know there has been none. In the Conference, we have not even had time to discuss the technical aspects of verification on chemical weapons. As we see it, we find ourselves in no better a position than we were in a year ago.

My delegation is accordingly convinced that we can take up a draft convention on the prohibition of chemical weapons only when we reach a general consensus as to the substance of the matter, i.e. the scope of prohibition and the means of verification to ensure an effective observance of such prohibition.

The Japanese delegation has always emphasized the importance of holding informal meetings with the participation of experts in order to examine technical aspects relating to the verification of banning chemical weapons.

At our meeting on 13 April the Swedish representative, Mr. Eckerberg, proposed the holding of meetings of experts in the summer session of this Committee and, at the same time, suggested in a concrete manner the major items to be discussed at those meetings. The Japanese delegation wholeheartedly welcomes the constructive proposal made by the Swedish delegation.

My delegation is also pleased with the decision of the Committee, at the suggestion by the representative of Italy, Mr. Caracciolo, to hold an informal meeting of ourselves to sort out the points on which we need to ask our experts for their views so as to facilitate our work.

With these new developments in mind, I should like to recapitulate some of the most salient points which would guide us in our efforts towards the solution of the question of verification.

First, there is the question of the scope of prohibition. As a great variety of chemical agents are used for chemical weapons and many of them are daily produced and used in a number of countries for peaceful purposes, it is obvious that we should know exactly what we are going to prohibit.

This would involve working out a precise definition of chemical weapons and their means of delivery to be prohibited. At the same time, as many chemical agents are used for quite legitimate and peaceful purposes in many countries, careful consideration should be given in defining the kind of activities to be prohibited in order not to hamper or obstruct peaceful or legitimate activities involving the use, production, etc. of the chemical agents.

Then there is a question relating to the methods of verification. Once we know the kinds of chemical weapons, as well as the activities to be prohibited, we must try to examine what kind of methods are available, in the light of the current level of science and technology, for an effective prevention or detection of violations such as the use, development, production and stockpiling of chemical weapons.

Since the time when the question of the prohibition of chemical weapons was brought up for consideration at this Committee, various proposals or suggestions regarding concrete methods for verification have been put forward by many delegations. They range from the system of reporting and monitoring of economic data, satellite reconnaissance, remote sensing of air, to the on-site inspection, chemical analysis by way of measuring the activities of cholinesterase in the blood of workers, the use of an improved technique and instrument of gas chromatography, etc. In evaluating the effectiveness of these methods, we should bear in mind that these methods can be divided into two groups, namely, one which can be applied without involving any intrusion into the territory of another State, and the other requiring territorial intrusion.

Reporting or monitoring of economic data or satellite reconnaissance belong to the first type. On-site inspection or the method of measuring cholinesterase activities fall into the second type. In between, perhaps, comes the method of remote sensing, in as much as it could be applied from outside the territory of a State, depending, naturally, on the size, location, terrain and weather conditions, etc. under the given circumstances.

This is where the interrelations between the scope of prohibition and the means of verification come into the picture. A method effective in preventing or detecting the violation of treaty obligations involving certain kinds of chemical agents or activities might be found highly ineffective for other kinds of agents or activities.

My delegation can hardly agree with the thesis that a demand for adequate verification measures is equivalent to a request for espionage facilities.

If one rejects ab initio the concept of verification in the field of chemical weapons which involves territorial intrusion into another State, how can one explain the system of safeguards under the Non-Proliferation Treaty on nuclear weapons, which does involve what might be called "territorial intrusion"?

Here we are guided by General Assembly resolution 2662 (XXV), which, after pointing out the importance of the issue of verification, rightly states that "verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure the effective implementation of the prohibition".

If it is established that national measures involving no territorial intrusion into another State are not enough for the ban on certain kinds of chemical weapons or activities, would it not be only logical that we should complement and supplement such national measures with international measures even if they involve such territorial intrusion?

If indeed there is a political decision to prohibit the sort of chemical weapons or activities I have referred to above, it is only natural to expect that there should also be a political decision to accept such international measures.

Lastly, I should like to touch briefly upon the question of procedure to apply the methods of verification on the ban of chemical weapons.

To our mind, the question of procedures involves three aspects, namely those concerning the procedures for the prevention and detection of the violation of the prohibition, the procedures for complaint and the procedures for the investigation to be conducted when such a complaint is lodged.

Here again the General Assembly resolution I have referred to above gives us clear guidance. For one thing, it is self-evident that all the nationally-available measures have to be complemented and supplemented by international measures. In this respect, safeguard procedures under the International Atomic Energy Agency (IAEA) for the implementation of the Non-Proliferation Treaty (NPT) can be taken into account as well as in the field of chemical weapons.

According to the IAEA safeguard system already worked out, it depends primarily on the national system of accounting for and control of nuclear materials in each non-nuclear-weapon State to prevent the diversion of nuclear materials to military purposes within its territory in compliance with the obligations assumed under the NPT. Such safeguards by a national system must be applied in such a manner as to enable the IAEA to verify findings of the State's system in ascertaining that there has been no diversion of nuclear materials from peaceful uses to nuclear weapons or other nuclear explosive devices.

As to the procedures for complaints and for the investigation to be conducted upon such procedure, I should like to limit myself for the moment to stating that the Japanese delegation attaches great importance to the assured and smooth implementa-

tion of each stage of such procedures, without being subjected to the arbitrary will of a State.

CCD/PV.560 pp.7-9

Netherlands/Rosenberg Polak 27.4.72 CW

So the first question that arises in a discussion of chemical disarmament is a simple but crucial one: what are we really talking about? Which is the size and composition of the military stockpiles that will have to be destroyed or diverted to peaceful needs?

A solution to this question would require, first of all, an undertaking by the parties to a CW convention to declare the types and quantities of agents they possess as means of warfare. These declarations would have to be made once the convention has entered into force. The declared agents, assembled in containers or munitions, would then have to be stored in depots which could be accessible to observers of other parties. Their subsequent destruction or diversion to peaceful needs should be verified in accordance with the generally-recognized principle that disarmament measures shall be carried out under such effective control as would provide assurance that all parties are honouring their obligations. In view of the dangers inherent in non-compliance with an obligation to chemical disarmament by one or more parties, this principle would seem to ask for observation on the spot.

Even if this can be realized, it is evident that a verification system based on unilateral declarations cannot be watertight. There may remain doubts whether in fact all available chemical means of warfare have been declared. There is, I suppose, no easy answer to this. It would be very difficult if not impossible to require that parties to the convention should undertake to open to inspection all their installations and facilities that could possibly conceal military stockpiles. We shall have to look for other ways of obtaining assurance that the convention is being complied with. In this respect, I think, we should also take account of the following considerations.

First of all, for those countries that now have an operational capability for chemical warfare the total elimination of chemical weapons would logically result in changes in military doctrine, training, organization and equipment. Probably those changes would to some degree be perceptible without intrusive measures of verification, provided, however, that chemical disarmament were comprehensive. On the other hand, if a CW agreement would permit armies to remain equipped with certain types of chemical weapons, there would be no or only some ambiguous side-effects of the kind I referred to.

In the second place, chemical disarmament presupposes a prohibition of the development and production of chemical means of warfare. In the long run such a prohibition would make it difficult for parties to maintain a chemical-warfare capability, particularly if that capability had to exist on the basis of some undeclared stockpiles alone. Therefore an effective prohibition of production would reinforce an obligation to disarm.

This should now be interpreted as a plea in favour of a prohibition of production without a simultaneous prohibition of the possession of chemical means of warfare. I admit that there may be some logic in first turning off the tap before emptying the bath. But I am afraid that an approach that would aim initially at non-production only, and would postpone real chemical disarmament to a later stage, might give the impression of aiming at a kind of non-proliferation treaty in the chemical field. Although in this case both the horizontal and the vertical proliferation would be halted, we cannot ignore the element of discrimination inherent in such a limited ban. Such a course of action, I think, would not meet the expectations raised by the Convention on Biological and Toxin Weapons, especially its Article IX.

I think we agree that the purpose of a prohibition of chemical weapons as envisaged

in the article just mentioned is to strengthen the existing ban on their use; that is, to minimize the likelihood that these weapons will ever be used in the future. An effective prohibition not only of their production but also of their stockpiling and deployment would be most conducive to that purpose. It still holds true, as has been said in the Geneva Protocol of 1925, that the use of these weapons "has been justly condemned by the general opinion of the civilized world". Considerations of this kind have undoubtedly played a certain role in the past; but they will be of far greater influence if not only the use but also the sheer possession of these weapons would be forbidden. If, however, a government should still plan to engage in chemical warfare, it would be faced with the difficulty that now every kind of preparations would have to be executed in complete secrecy. Complaints and verification procedures should be designed to maximize this difficulty. Taking into account the general abhorrence of the use of these weapons, one might further think of possible collective action by other nations in case a country were the victim of a chemical attack. My delegation has noted with interest the indication in the statement of Mr. Roshchin on 28 March to the effect that the wording of Article VII, the assistance clause, of the socialist draft convention (CCD/361) could be strengthened. We are interested in an elaboration of this suggestion and in the comments of other members of this Committee, because we believe that the question of security guarantees promises to be more than a routine element of a C-weapons convention.

CCD/PV.560 pp.24-25

Canada/Ignatieff

27.4.72

CTB

One point in Mr. Roshchin's statement will no doubt raise questions regarding the procedures to be followed in attempting to attain the objective of a CTB. In referring to the possibility of utilizing seismological discrimination techniques for the verification of a CTB, Mr. Roshchin reiterated the willingness of his Government

"...to take part in an international co-operative effort for the exchange of seismic data as an additional guarantee that States will observe an agreement for the prohibition of underground nuclear weapons tests ... within the framework of an underground test ban agreement..."
(ibid., p.24).

In assessing the adequacy of verification based on such international co-operation, the Canadian delegation has argued, all countries require full information with respect to the volume and type of seismic data to be made available by governments under a test ban agreement and the time frame involved. Such information still remains incomplete.

The representative of Japan made in his statement of 20 March some interesting suggestions, which are in many respects akin to the Canadian call for interim restraints, for practical steps which might start a movement towards a CTB instead of having it remain at full stop. He also pointed to the important improvements which have already been achieved in seismological verification that should open the way, as many other delegations have pointed out, to the taking of the necessary political decisions on the all-important question of verification of a CTB.

He went on to point to the possibility of technical co-operation on an intercontinental basis concerning the techniques for monitoring compliance with progressive underground testing limitations. Canadian technical efforts have so far been directed to research into verification by seismological means rather than any substantial participation in an actual monitoring project, which raises political, technical and financial questions that would have to be examined very carefully. Suffice it to say at this very preliminary stage that we are most willing to explore the Japanese ideas in greater detail in technical discussions, and that we are most anxious to co-operate with Japan

and other States in the study of seismological verification techniques within the limitations of our resources. Moreover, if reductions or a suspension of testing at high and intermediate yield levels should prove acceptable to the testing States, and if it should be felt that Canadian facilities could play a useful role in monitoring compliance with such measures, we should be most anxious to do our part. We look forward to more close and intensive co-operation between Japanese, Canadian and other experts in examining these problems.

CCD/PV.562 pp.13-14

Japan/Nisibori

22.6.72

CTB

Needless to say, we already have seismological verification methods as one of the main scientific means of verifying compliance with an underground nuclear test ban. In order to realize an underground nuclear test ban, taking full advantage of such seismological verification methods, we believe it is essential for us to establish an international network of seismograph stations. For the establishment of such an international network of seismograph stations, however, such technical problems as the selection of the seismograph stations which will take part in the detection and identification of underground nuclear explosions and of the type of seismographs with which those stations are to be equipped, practical methods of determining the magnitude unambiguously, the method of exchanging data among these stations, the designation of co-ordinating centres for collecting and keeping the data which will be sent from those stations, and methods of preventing intentional tampering with the observed data, etc. must be solved beforehand among the countries concerned, including the United States and the Soviet Union.

The Japanese delegation would like to stress, in particular, that the question of the establishment of an international network of seismograph stations and the various related technical questions are questions which cannot be evaded, whether we can realize a comprehensive nuclear test ban at a single bound or whether we have to be content for the time being with various interim measures leading to a comprehensive nuclear test ban.

In the light of this consideration, we strongly hope that this Committee will organize a series of meetings of experts with a view to solving the technical questions relating to the establishment of an international network of seismograph stations.

In my statement at the meeting of this Committee on 28 March this year, I suggested that Canada, Japan and Sweden should establish a tripartite network of seismograph stations in order to prohibit immediately underground nuclear explosions of magnitude $5 \frac{3}{4}$ or above, as one interim measure leading to a comprehensive nuclear test ban. Of course, this tripartite network of seismograph stations must be developed as rapidly as possible into an international multinational network of seismograph stations with the participation of as many countries as possible. Accordingly we earnestly hope that the United States, the Soviet Union and other countries concerned will give positive support to our proposal so that we may develop the network of seismograph stations from a "tripartite" to a "multinational" network.

CCD/PV.567 p.9

Czechoslovakia/Vejvoda

11.7.72

CTB

If the United States of America were ready to accept obligations to stop underground nuclear tests, the working-out of an appropriate document would not constitute a great problem.

As far as the question of verification is concerned, we do not wish to repeat old

arguments. We wish, however, to underline again the fact that science offers ever new opportunities of detection without the necessity of an on-site inspection. If it is possible to use satellite-mounted sensors in the field of chemical weapons, as stated in the Working Paper of the United Kingdom (CCD/371), then certainly we can say the same about underground nuclear weapons tests. Digging of a shaft in preparation for a nuclear explosion is certainly also detectable easily by satellite-mounted sensors.

CCD/PV.567

pp.18-19

USSR/Roshchin

11.7.72

CW

Another important question relating to the solution of the problem of complete prohibition of chemical weapons is control of observance by States parties to an agreement on such prohibition of the obligations they themselves have undertaken -- in other words, guarantees of fulfilment of the agreement. This question involves considerable difficulties which, we believe, can and must be overcome by the persistent and sincere efforts of the participants in the negotiations. We assume that, given a reasonable approach, ways can be found to ensure a sufficiently reliable implementation of the agreement prohibiting chemical weapons that shall not obstruct the use of chemistry for peaceful purposes.

The main difficulty in our view is that the close and specific interrelation between the production of chemical substances for military purposes and for peaceful purposes makes verification of implementation of the agreement on such prohibition, if based solely on a system of international control, all but impracticable; since the adoption of such a system of control would entail foreign interference in a very wide range of States' activities, which of course they would not accept. At the informal meeting convincing technical arguments were, we consider, advanced to this effect. In this connexion it was pointed out, for example, that especially great difficulties in international control would arise over the manufacture of dual-purpose products and also in scientific research; since this would raise questions of protecting industrial property in connexion with the need to patent new chemicals.

At the same time it was pointed out during discussion of the question of control that, with only national means of verification, countries lacking adequate scientific and technical capabilities would find themselves at a disadvantage in comparison with the more developed countries.

We therefore believe that there must be a rational combination of national and international forms of control. As we know, the socialist States' draft convention provides for both national forms of control and international procedures, including application to the Security Council and the conduct by it of investigation. National forms of verification could in our view be based on a single programme drafted and adopted at an international conference of experts, which would surely eliminate uncertainties in the solution of this problem and also possible errors and inaccuracies.

At the informal meetings held on 5-6 July and in several working papers interesting data were given indicating that there are several effective forms of national control, including in particular analysis of statistical data. Some reflections on this method are to be found in the Italian working paper CCD/373. "This type of control", it says, "which is based in large part on the analysis and interpretation of statistical data, will be all the easier to carry out as the proportions of raw materials required for military use are greater than the average amounts used for civilian purposes in a given state, if that state were to decide to build up a militarily useful chemical stockpile". This document also notes, in regard to dual-purpose agents, that "the problem of verification seems easier... If a State wishes to build up a militarily useful arsenal from such substances, it would have to divert large amounts of them for that purpose with signifi-

cant impact on the average amount produced for large-scale civilian uses" (CCD/373).

In regard to the various forms of national control, we may also refer to the data given in the working paper submitted by the United Kingdom delegation concerning the use of satellites to detect field tests of chemical weapons (CCD/371). This document notes that, although at present this type of observation has definite limits, it is in general quite promising.

CCD/PV.569 pp.13-16

Yugoslavia/Cvorovic

18.7.72

CW

The second major issue which we are facing at this moment is undoubtedly that of verification. Effective control is one of the basis prerequisites in pursuing successfully international negotiations in the field of chemical weapons as in all other disarmament measures.

There is no doubt at all that the problem of effective control pertaining to chemical weapons in particular, is exceptionally complex. The rapid contemporary development of chemical science could create in the near future an even more complicated situation in regard to ensuring effective control in this field. Should we, being faced by such a complexity, wait for the eventual establishment of an absolutely reliable system of control which, for the present, is not yet in sight, or are we not in duty bound to establish right now a technically realistic and politically generally-acceptable system of control which might, with further continued improvements, represent a satisfactory solution?

As far as control of chemical agents is concerned, we should bear in mind that there exist chemical compounds which are today already classified as chemical warfare agents, and those so-called "potential chemical warfare agents" for which current knowledge in the field of chemistry, technology, physiology and toxicology can justify the assumption of the eventual possibility of their use for purposes of war.

Technically speaking, the control of both groups could be applied to final products, intermediaries and materials. It should be immediately stressed that there is not a single raw material meant exclusively for purposes of war, whereas the application of the intermediaries for war purposes is reduced to a minimum, and that only in the group of organophosphorus compounds.

The technical control of final products, notably of ready-made chemical warfare agents, might be carried out from the very beginning of their synthesis up to their final storage.

It would be obviously impossible to maintain so high a degree of technical control over all institutions and installations which could be utilized for research, development and production of chemical warfare agents and other activities. Consequently any system of control must be based on a considerable degree of confidence. It must be conceived on an appropriate combination of national and international measures of control. This approach was expressed in the Joint Memorandum of the Group of Twelve Countries submitted to this Committee as far back as 25 June 1970 (CCD/310, para.7) "Reasonable guarantees and safeguards should, therefore, be devised to inspire confidence in the implementation of any agreement in the field of C and B weapons. Verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system which would ensure effective implementation of the prohibition". This approach has been commended by the United Nations General Assembly in its resolution 2662 (XXV) of 7 December 1970, and repeated in resolution 2827 A (XXVI) of 16 December 1971.

May I be permitted to recall that the Yugoslav delegation presented in its Working

Paper CCD/302 of 6 July 1970 its elaborated views pertaining to this issue, pointing out a number of national and international measures of control that should be undertaken?

The system of control in our view should be based predominantly on national measures, namely on self-control of States and on the development of wide international co-operation as one of the most important means of mutual control.

On the basis of the evolution of political conditions and new scientific and technical achievements, the system of control should permanently be improved and supplemented in order to make it more reliable and effective.

It is, however, possible to envisage numerous actions on the national plane which, being mutually interrelated, would represent a complete system of national control, i.e. self-control. Some of these actions, particularly those in the field of national legislative measures, are presented in the Working Paper submitted by the Yugoslav delegation (CCD/302). Noteworthy would be to establish a national mechanism of control in the form of a group of experts with full authorization to act within the national boundaries. The relationship between the national and international organ for control, especially in regard to reporting procedures, should be clearly defined and internationally agreed.

A uniform procedure for verification measures is required in order to make them effective. Likewise, to have a standardized method of verification it is indispensable in our view that an ad hoc international body of experts of different specialities should elaborate the proposals for the procedure of verification. This international body of experts should also work out a kind of questionnaire which would cover all necessary technical, scientific, economic and other data that would officially and periodically be reported.

We think that it would be possible for the group of experts to prepare without any delay appropriate proposals for technical and procedural methods of verification for the future work of this Committee.

For the purpose of implementation of agreed measures of international control and for the purpose of co-ordination of activities among States, and also as an encouragement and advancement of international co-operation in this field, it is indispensable to establish an appropriate international body having available a professional institutionalized mechanism which could perform activities of such a nature. In this connexion my delegation focuses its attention particularly on Chapter IV of the Working Paper of the United States delegation (CCD/360) and the ideas put forward by the representative of the Netherlands, Mr. Rosenberg Polak, in his statement on 27 April (CCD/PV.560). In the judgment of my delegation, in dealing with the system of control for chemical weapons it is of particular importance to have in mind that this system could be a very important element of a future comprehensive international system of disarmament control. Accordingly, when we are speaking about the question of institutionalization, we find very close to our way of thinking the idea put forward by Mr. Polak, who in his statement on 27 April said: "One could even go a step further and consider whether such body could be devised as the nucleus of an international disarmament organization which, in due course, would take over responsibilities also in other fields". (CCD/PV.560, p.10). We firmly hope that in the course of our future efforts to enhance the effectiveness of the system of verification and control, the question of institutional arrangement should be elaborated in detail.

So conceived, a system of control must be strengthened by an assistance clause in accordance with the United Nations Charter. In this connexion my delegation is particularly pleased to have heard Mr. Roshchin say, when introducing the Draft Convention to this Committee on 28 March in connexion with article VII: "However, we are ready to consider alternative texts for this Article which would strengthen the provisions concerning assistance to a victim of a violation of the Convention". (CCD/PV.553, p.31)

An example can demonstrate how far we have come on such a central issue as verification. In his statement last Tuesday the representative of the Soviet Union, Mr. Roshchin, illustrated richly what might enter into "a combination of national and international forms of control", a scheme which was spelled out in even fuller detail by the USSR expert at the informal meeting. I want to recall how Yugoslavia already in a Working Paper of August 1970 (CCD/302) presented a catalogue of National Legislative Measures of Renunciation and Self-Control by Each Country, respectively Measures of International Control. This in turn was an excellent refinement of the model for verification which the Swedish delegation had suggested in CCD/PV.463 (April 1970), outlining a two-pronged national/international approach based on the main principles of open reporting and of internationalization of information. The memoranda of the Group of Twelve of 1970 and 1971 strongly underlined the need for a combined national/international approach of verification. The comprehensive United States Working Paper CCD/360 listed many of the same features, as well as the utilization of some international panel of experts in a similar advisory capacity as the one envisaged by the delegation of the USSR (CCD/PV.567). This is an example how, thanks to our joint deliberations, suggestions have matured and become more and more acceptable.

Article IV, dealing with what we customarily call "national means", in reality forges a link between the substantive commitments by international agreement laid down in Articles I-III, and the verification arrangements proper in Articles V and VI. Its immediate aim is to stipulate what responsibilities national authorities have to shoulder in order to implement the international agreement. It ought, however, to be made more specific by including some measures which have been suggested in the course of our deliberations, such as the issuing of laws and regulations to control civilian production, the establishment of national committees to check on compliance, etc.

Article IV should also contain commitments to make national provisions known to the outside world, thus already giving the undertakings in this article a share in facilitating verification. While retaining the permissive umbrella "in accordance with its constitutional processes", it should nevertheless be required of a State Party that the laws and similar instruments promulgated should be internationally registered and published, as should also information as to the enforcement measures envisaged. The emulative character of any publications about national measures taken should not be minimized. These effects would be even better secured if we were to follow the advice offered by the representative of the USSR: "National forms of verification could in our view be based on a single programme drafted and adopted at an international conference of experts" (CCD/PV.567).

Such measures of national self-discipline with a fair degree of international prodding, as envisaged under this Article, would anyway probably come to be called for in relation to environmental protection against damage from chemical agents, as I have ventured to suggest before (e.g. in CCD/PV.549).

In this context of national obligations other measures to induce trust should also be included, such as that of declarations, suggested by several delegations, on which I want to offer some preliminary comments.

In the SALT negotiations the careful counting and weighing of the resources on both sides seems to have been a prerequisite for reaching agreement. The super-Powers thereby have set an example for themselves and for other countries, both on the possibility and the effectiveness of this measure. The super-Powers have means to find out about each other's and other nations' resources, while most other countries do not have

such capacity. However, given declarations from all Parties when they adhere to a treaty banning chemical means of warfare, the smaller countries would at least have a possibility to form an opinion as to the trustworthiness of other Parties.

The suggestions that declarations should embrace activities and facilities as well as stocks is worth further exploration. It seems to us that such a procedure might be particularly acceptable in regard to stocks which are to be destroyed.

Here I also want to introduce a reminder of our own early suggestion (CCD/322) that some international observation should be provided for in order to verify such destruction operations, sometimes called "bonfires". An observation of that kind is then a non-recurrent and quite non-intrusive occurrence.

Articles V and VI would likewise seem to have to be streamlined in order to get a clear sequence as to where the responsibilities lie for contributions to verification.

If Article VI is to deal only with the procedures for complaints, Article V has to be more distinctly divided into two parts: para. 1 to deal with the co-operation and consultation between Parties to the treaty, and para. 2 to deal with "appropriate international procedures". Both have to be strengthened and amplified.

Thus para. 1 should preferably include certain rules about international exchange of information, thus specifying considerably the vague words about the duties of Parties to "co-operate" and "consult" in the interest of verification. This co-operation and consultation may consist of a sequence of inquiries, exchange of information and other suitable methods of verification agreed upon.

In regard to the second half of Article V, I want to stress that in para. 2 some international machinery should be indicated which can serve States Parties to this treaty as a guarantor that objective verification procedures are available at the international level before a matter is referred to the Security Council. This is the Swedish Government's persisting criticism of the B-Convention, which envisages the investigations as undertaken on behalf of the Security Council with its greater margin for political discrimination. I may refer to the very lucid and constructive statement by the representative of the Netherlands, Mr. Rosenberg Polak, who spoke of the "desire ... to divide the process of verification into two distinct phases, separating fact-finding from political decision. It would certainly not be in keeping with this desire if a convention on chemical weapons would only contain a provision similar to Article VI of the B-Weapons Convention." (CCD/PV.560)

The Swedish delegation has no objection to para. 1 of Article VI, which gives the Security Council the possibility to consider a complaint about breach of treaty obligations. The function of the Security Council under the United Nations Charter to act to maintain peace and security is a safety-valve for all of us. But it is no substitute for the preliminary step of accumulating data, which ought to be done continually, without complaints having been lodged, instituting an international co-operation on an advanced technological level, to the service not least of nations who themselves are insufficiently equipped for such scrutinies. As I have just said, this provision should be clearly spelled out in Article V (2); Article VI (2) should then be reworded so as to distinguish its different character.

At this point, let me take up for somewhat closer consideration the suggestion made in passing that a fuller treatment of some principles and provisions be placed in an Annex to the treaty. As experience develops, these provisions should be made gradually more refined.

As to arguments for using the expediency of an Annex, I beg first to refer to the points made in the United States Working Paper CCD/365, and by the representative of the United States, Mr. Martin, as to the need for "guidelines". Taking a leaf from another document may be even more telling: in the Moscow agreement on anti-ballistic missiles (ABM) the main treaty text is accompanied by "Agreed Interpretations".

Another compelling reason for taking recourse to an Annex is that the content of these descriptions is nothing that can be ordered ready-made from legal experts. Our meetings with scientific experts made it abundantly clear that the substance we have to deal with is not a clear-cut one; its boundaries are to various degrees overlapping and even apt to change with time. This is one reason why for the sake of verification the Swedish delegation in Working Paper CCD/372 tried to establish more precise relations between the concepts "super-toxic" and "single purpose". I would wish to point out that we are already — again largely thanks to the collaboration of experts — close to agreeing on some "types" of C-agents which should be characterized as single purpose ones.

The main function of the Annex should be to deal with verification. Already for the national implementation, some agreed standards would be valuable. The international expert panel earlier referred to could advise on some matters of verification, as methods for analysing trade statistics, scientific literature, etc., possibly by computerized retrieval of information. This would also assist the many countries which have only limited resources for such work.

A practical point on which we shall need further mutual consultation is where the international panel of experts should be attached. The Review Conference would provide far too infrequent opportunities; one-year intervals would seem preferable. One could also consider the Secretariat of the United Nations — as is suggested for instance in regard to the new set-up for implementing decisions as to environmental problems. Or even an interim International Disarmament Organization, as I would translate the constructive suggestion made by the representative of the Netherlands (CCD/PV.560) about a "nucleus of an international disarmament organization", which could then be evolved for the major task of verifying and controlling all multilateral disarmament agreements. In the Swedish Working Paper CCD/287 we attempted to list the asymmetrical provisions for international control of disarmament treaties which have so far been adopted.

CCD/PV.570 pp.11-12

Italy/Caracciolo

20.7.72

CW

While the purpose of my intervention today was, as I previously said, to focus on the problem of the scope, I cannot help making a few remarks on the problem of verification.

In this regard it seems to us that another point arising out of the technical discussions on 5 and 6 July last is the interest, expressed by several delegations, in the study of the possibilities offered by indirect controls. Here is another task which might be assigned to the international machinery which we suggested should be included in the treaty: namely the collection and the standardized (if possible computerized) evaluation of technical, scientific, economic and statistical data, particularly relating to production of and trade in raw materials and chemical products, as well as the study of other possible forms of non-intrusive control.

This suggestion is in keeping with the ideas expressed in our working papers CCD/335 of 8 July 1971 and CCD/373 of 21 June 1972 and, in our opinion, could contribute to the solution of the problems of verification. Of course indirect controls cannot possibly cover all the complex and sensitive issues involved, for which other methods and solutions will have to be devised.

As we emphasized on previous occasions during the negotiations leading to the treaty banning biological weapons, and also in our statements expressing our approval of the treaty both in this Committee and in the General Assembly, the Italian delegation attaches the utmost importance to the adoption of a system of effective controls in all disarmament or armament-control treaties.

This requirement is particularly justified in the case of the treaty under discussion

owing to the practical difficulties of laying down uniform control methods applicable to all classes of agents and to all provisions of the treaty. In our working paper CCD/373 we expressed the view, shared by several other delegations, that the different classes of agents raise different problems of control. As to the single-purpose agents, we stressed the fact that at this stage it is still not clear how indirect methods of control could apply to countries which are major producers and consumers of raw materials used in the manufacture of C weapons. Moreover, when discussing controls we cannot lose sight of the fact that they are also intended to ensure, within an agreed period of time, the effective and complete destruction of stocks, which is an essential part of the treaty. We consider, therefore, that the problem of the application of some specific forms of international direct control must also receive careful attention for inclusion in an appropriate article of the treaty. In this connexion also, in considering the terms of reference of the international committee of experts which we have suggested should be established in the treaty, some tasks concerning the technical aspects of the verification procedures might perhaps be included.

CCD/PV.571

pp.19-22

Pakistan/Naik

25.7.72

CW

The other issue which has aroused equal interest — and its very close connexion to the issue of the scope of prohibition could not be denied — is the issue of control and verification. On this question, as stated in the Joint Memorandum, it has been the consistent view of the twelve non-aligned countries, including Pakistan, that "Verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system which would ensure effective implementation of the prohibition". We note that in the socialist draft convention an effort has been made to respond to the wishes of the non-aligned countries. Articles IV, V and VI of the draft convention deal with the control and verification of the prohibition of C weapons. Article IV deals mainly with the question of control through national means. Its provisions appear to be satisfactory, though we see much merit in the suggestion made by Mrs. Alva Myrdal in her statement on 18 July that it should also contain commitments to make known national provisions to the outside world.

As regards Article V, which provides for inter-State consultations and international co-operation, and, more important, for international procedures, for the purpose of implementing the provisions of the convention, I wish to offer a brief comment.

From the point of view of many of the developing countries only their own national means of detection may not be adequate. Even such a simple national means of detection as interpretation of statistical data may present insurmountable technical difficulties to many of the developing countries and may require diverting of precious human and scientific resources from some other and more productive purposes to this end. It may also involve considerable expense — a factor which cannot be ignored. While it is true that it may not be an unbearable burden on the technology or economy of the advanced countries, it could certainly create difficulties for most of the developing countries signatories to a C convention.

Consequently we feel that there is room for international co-operation on a permanent basis in employing national means of detection and verification. For example, and in addition to the national action relating to verification, the analysis and interpretation of the statistical data could be done periodically by an agency composed of the experts from the signatory States. Likewise States could co-operate on other measures of verification, other than on-site inspection, as and when they evolve, on a permanent basis. Such an international approach would result in three basic advantages: it would be more

reliable and satisfactory; it would be less expensive; and lastly, it would not be tantamount to foreign interference in the internal industrial activities of a State.

My delegation has an open mind as regards the implementation of this suggestion. While we do hold the view that this kind of international co-operation in the field of verification should be on a regular and permanent basis, we do not insist that it should be fully outlined in a C convention. If it is not found possible to elaborate this point in a C convention, it could be easily worked out in a related document, such as a Protocol, to which interested signatories could voluntarily adhere.

It is obvious that the type of international procedures which I have just mentioned, even if properly elaborated, would not be adequate under all the circumstances. For example, a signatory State, through its own means of detection, may have reason to believe that another State party is acting in breach of the obligations deriving from the provisions of a C convention. In all such cases it may not be possible to endorse or deny this assertion through the method of international statistical data analysis alone or other methods not involving on-site inspection. Consequently the complaining State must have some redress available. While we appreciate the spirit in which the complaints procedure relating to such events has been suggested in Article VI of the socialist draft convention, we, like the Swedish delegation, consider it not entirely adequate, for the reason that the initial ascertaining of a possible violation of a C convention or fact-finding should not be made dependent on a decision of the Security Council, which in turn is subject to the exercise of a veto. We therefore support the view that fact-finding should be done by an independent international body. As regards the suggestion that perhaps the United Nations Secretary-General should carry out such an initial investigation: while we appreciate the spirit in which this suggestion has been offered, in principle and taking into account certain practical considerations, we find it difficult to fully endorse this idea. As delegates are aware, such questions are likely to be highly sensitive and political. Therefore it would not be fair that the Secretary-General should be burdened with such a task, especially in view of the fact that the results of such an investigation would be submitted to the Security Council, where the Secretary-General has a certain role to play under the provisions of the Charter.

One possible way in which an initial investigation could be conducted is through a permanent enquiry commission composed of a small number of the signatories to a C convention. This commission, of say three or five signatory States, could be elected by all the signatory States on the entry into force of the convention and could be subject to periodic re-election, say every five years. However, if the idea of the establishment of a permanent enquiry commission is not regarded as capable of acceptance in the present political context, we should at least aim at defining in the convention a simple and automatic method of establishing an ad hoc enquiry commission by the signatory States when and if a State requests such an investigation. We do not expect, and we sincerely do not hope, that such international investigations would have to take place often and therefore such a machinery needs to be established. The basic consideration behind our proposal is to introduce such elements in the convention as would render it more viable. In our view the inclusion of the provisions for the establishment of a permanent enquiry commission, or at least providing for the establishment of such commissions on an ad hoc basis and in response to specific requests, would generate a greater degree of confidence among the signatories and would make a C convention more generally acceptable.

As regards the assessment of the facts established as a result of international investigation, and the question of a decision on them and any subsequent action, we agree that the only authority competent to do so is the Security Council.

Another issue relating to verification which needs careful consideration arises out of the provisions of Article II of the socialist draft convention. This article provides

that each State party to the convention shall undertake to destroy, or to divert to peaceful purposes, as soon as possible but not later than a specified period after the entry into force of the convention, all chemical agents, weapons, equipment and means of delivery specified in Article I of the convention which are in its possession or under its jurisdiction or control. This provision, in our view, is extremely important and must be implemented by the States parties most scrupulously and in as short a time as possible. It is obvious that while the super-Powers, through their own means of information and assessment, may be able to satisfy themselves that the provisions of this article have been complied with by a State party within the given time, most of the other States parties, falling in the category of the developing countries, may not be able to do so. Unilateral declarations by the States parties to the effect that they had implemented Article II within the specified period would be welcome, and my delegation would not question the trustworthiness of such declarations. But it is a fact that such unilateral declarations could not serve as a completely satisfactory substitute for an impartial international method of verification of the implementation of Article II. My delegation would therefore suggest that this question should also be given due attention with a view to evolving an objective and reliable method of verification of the destruction or diversion to peaceful purposes of the existing chemical agents of warfare in accordance with Article II of the socialist draft convention.

CCD/PV.572

pp.9-12

Sweden/Myrdal

27.7.72

CTB

Some delegations would at this stage want to remind me that a CTB also has some drawbacks. They will raise the question of verification. I have repeatedly intimated that at the present stage of accumulated knowledge this issue is a red herring to distract us from the decisive factor, which is the lack of political will, reason and courage.

To look at what is agreed to be the main instrument for remote control, seismological monitoring has advanced so far that one can correctly identify a sufficiently large proportion of explosions so as to obtain an effective deterrence against attempts at clandestine testing. No objections on verification grounds can thus be raised against banning the type of tests which now constitutes the large majority. To monitor weak explosions more satisfactorily — which also should be included in the ban — some investments for improvement of observational facilities would be needed, but they are not large in relation to the issue. The few false alarms caused by earthquakes that would still occur would then be handled by the challenge procedure incorporated in our treaty proposal (CCD/348). And they certainly represent an insignificant risk in comparison with continued testing over the whole range.

But we should, of course, continue to improve monitoring facilities. We have dealt with this topic thoroughly before in great detail in my statement of 27 July last year (CCD/PV.524). By way of further progress reports I want today to introduce some working papers. The first contains a list of Swedish research publications related to the monitoring of nuclear explosions (CCD/379). It is a companion paper to the recently-tabled working paper with a list of Canadian publications in this field (CCD/378). Among the items listed in the Swedish paper are three so-called event reports, which we have taken the liberty to circulate informally today. These are intended to be a contribution from our Hagfors Observatory to the international exchange of seismological data. The reports are highly technical, presenting available seismic records and other data in some detail for selected events among the earthquakes and the nuclear explosions. They are given in a standardized format and, which may be of some interest, the text and the diagrams are composed and printed almost entirely by a computer.

Another paper, also today informally circulated, entitled "Identification of under-

ground nuclear explosions and earthquakes", summarizes the research that served as a background to my detailed intervention here on 27 July last year about the verification issue. The report contains references to some pertinent Swedish research reports which were not published until after last summer's informal meeting with seismological experts. The summary report also contains a discussion of related work in other countries.

The Swedish investigations have produced precise, if simplified, decision theoretical models of the identification and control in a test-ban treaty, and also methods to assess the capabilities in this field. Their application to available data shows, as also summarized in the report, the large capabilities presently available.

It remains, however, to evaluate fully the large seismometric array stations in Montana, in Alaska and in Norway. At our seismological experts' meeting last year we understood that such evaluations would be made by the United States. We are in particular looking forward to the evaluation of the very large and well equipped NORSAR station in Norway, which we understand is under way in regard to its detection sensitivity and its discrimination sharpness.

A second working paper which I have the honour to introduce formally is the Canadian-Swedish working paper CCD/380, distributed today. It describes an experiment in direct international co-operation which was, I think, fairly successful.

The sometimes very efficient method of identification by body and surface wave magnitudes has, as you know, been demonstrated down to 5 kt and less. Its practical applicability depends, however, on having enough of some rather sensitive equipment in the right places. In view of this difficulty it appeared advisable to our scientists and also to their Canadian counterparts to develop further the method of identification by means of the rather easily recorded short-period body waves. The scientists eventually entered into direct co-operation and investigated what can be achieved by such short-period discriminants when data from the Yellowknife array in Canada and the Hagfors array in Sweden are used jointly. They also combined methods of analysis employed in the two scientific institutes.

The results described in the working paper show that the joint use of the Yellowknife and Hagfors data on Eurasian events significantly increased the probability for correct identification of explosions. At the false-alarm rate of one in one hundred earthquakes, the probability for correct identification of explosions was estimated to be somewhat higher than 95 per cent. This is a considerable improvement over the 75 per cent estimated when only Hagfors data are used. The sharpness of this two-station short-period discriminant appears indeed to be as good as that of the widely-accepted method of discrimination by body and surface-wave magnitudes.

The Canadian-Swedish co-operation leading to this result is therefore not only a source of satisfaction to us but also an example of how close international co-operation can further the complete test-ban case.

We have stated repeatedly that the regional differences in short-period discrimination are important. This is confirmed in a recent scientific paper where Japanese scientists describe discrimination by certain short-period data routinely recorded for such purposes in Japan. The discrimination obtained by this method is very sharp indeed for events in some regions in Eurasia but appears to be less so for some events in some other regions. This again points to the importance of the joint use of data from widely-separated stations.

We therefore welcomed a recent invitation by the Japanese Government to Swedish and Canadian experts to co-operate closely with Japanese identification experts and to use Japanese data jointly with Canadian and Swedish data in research in the field of identification of explosions and earthquakes. The representative of Japan, Mr. Nisibori, last week tabled a working paper outlining an agreement on such tripartite co-operation reached in a recent meeting in Japan of Japanese, Canadian and Swedish experts

(CCD/376). The Swedish Government is grateful to the Government of Japan for this initiative.

All the endeavours made to improve verification capabilities, some of which have just been mentioned, would greatly benefit from some specific co-operation from the testing Powers. In particular I want to direct some questions to the United States delegation. On 23 July last year a representative of the United States Government stated at a Congressional hearing (Dr. Walske before Senator Muskie's Sub-Committee on Arms Control, International Law and Organization) that the United States expects to encounter three unidentified events in the Soviet Union at magnitudes above 4.5, and 25 such events at magnitudes above 4. These numbers were offered as an explanation of the United States attitude on CTB verification, that "some on-site inspection" is required. We and, I think, also other delegations here would appreciate learning from the United States delegation about the technical details behind these numbers, how they were defined, which events they were related to, what observations were employed. Such information would do much to focus properly the scientific investigations by other States to help us understand the United States objections correctly.

This question widens to become one of greater political significance. It corresponds to the sixth and last in my catalogue of questions on 4 May last year, questions as yet unanswered by the testing Powers. I then asked them to state their present positions as to on-site inspection obligatory on the one hand and by challenge or by invitation on the other. In the records from the just-mentioned very interesting hearings the phrase is used: "a comprehensive test ban treaty with adequate safeguards" (p.102). Now, we must ask, what exactly is "adequate", in technical terms?

I have, according to tradition, dwelt on the seismological means for verifying a comprehensive test ban. We all know, however, that other means also exist, assisting in building up "adequate safeguards", and that particularly the major testing Powers have access to observations from satellites, which are becoming increasingly more informative. The time seems to have come when we — who are all so concerned with a test ban and its verification — should be allowed to share this knowledge. I consequently urge the delegations of the United States and the Soviet Union to present a report to us with information as to the monitoring capabilities of satellites in respect to nuclear testing. Why not arrange a demonstration with pictures and some comments, for the benefit of bringing all members of the Committee up to date on the true state of the art of verification.

CCD/PV.572

p.18

Netherlands/Rosenberg Polak

27.7.72

CW

This leads me to go one step further, and I should now like to embark on the verification aspects. I believe that for the super-toxic chemical agents the method of economic monitoring might be promising. The possibilities of remote sensing techniques still seem to be very limited. Remote sensing techniques, moreover, seem to be applicable only to field testing; they are of no avail as to the more crucial stage of production and stockpiling. Off-site or near-site inspections could be helpful, but they imply an intrusion into national territories which, alas, may be considered by some States as trespassing. We feel, however, that one could not completely do without the possibility of inspections on or near the spot within the framework of a possible complaints procedure. In this context I should like to remind the Committee of our preference for dividing the process of verification into two distinct phases, separating fact-finding from political decision. I was grateful to note that the Pakistan and Swedish delegations also support this idea.

Economic monitoring in the case of dual-purpose chemical agents seems less promis-

ing because the huge quantities involved make it less likely that any diversion to military purposes will be discovered. A complaints procedure, including the possibility of inspection on or near the spot, would also be indispensable for this category of chemical agents. We attach great importance to the deterrent effect of such a procedure.

Before concluding my statement I should like to say that I listened with great interest to the statement on verification made by Professor Melnikov during our informal meetings on July 5 and 6. Professor Melnikov made the suggestion that national control on the implementation of a possible treaty on banning chemical weapons could be exercised by national committees composed of representatives of the government, the press, trade unions and scientific and public organizations, prominent scholars and scientists of international standing, and other representatives, depending on the local conditions prevailing in each country. He then went on to suggest that an international meeting of experts should establish a uniform programme including the necessary rules and standards for national control procedures.

We found this suggestion an interesting one and we would be grateful if it could be elaborated in detail. We wonder, for instance, if such an international meeting should be mentioned and regulated in the draft convention or not. We also wonder how far such a meeting could receive authority to make binding recommendations to the parties to the convention. Another field in which such a meeting could be active would be the regular revision and up-dating of possible annexes to the convention.

CCD/PV.572 pp.25-26

Egypt/Khallaf

27.7.72

CW

Another difficulty arises from the fact that, contrary to the situation in other disarmament and arms control agreements, C weapons do exist in large quantities in various countries, particularly in the advanced countries. They could be available to many others. Consequently the verification system would have to meet a wide range of C weapons capabilities which cannot be easily predetermined in the treaty.

These difficulties, however, should, in as much as they should task our imagination, prove capable of solution. Various delegations have preceded me in making proposals and comments on what they consider a workable verification system. Two years ago Egypt submitted a Working Paper on Measures of Verification of a Ban on Chemical and Biological Weapons (CCD/314). We also joined with the other members of the Group of Twelve in submitting two working papers. I would wish to somehow expound some of these earlier thoughts and to see how to fit them in a verification model in a CW treaty.

It is generally recognized that the verification of a CW treaty should be carried out by a combination of national and international means. It seems to my delegation, however, that the concept of verification by national means needs to be delimited. In this endeavour we should attempt to draw a line between "application by national means" and "verification by national means".

Leaving aside for a moment the area in which the two concepts may overlap, it would seem to us that "application by national means" is an obligation undertaken by all parties to the treaty. States would be required to take the necessary legislative and administrative measures to prohibit the development, production, stockpiling, acquisition and retention of the agents, weapons, equipment and means of delivery pertaining to chemical weapons. All States are equal in the extent of their obligations to apply the treaty within their respective territories. While application by national means is essentially an obligation, verification by national means is essentially a right. Within this right States would utilize whatever means they have at their disposal to verify one another's chemical activities. There are no limits to the extent of the exercise of this

right, except the general principles of international law and the United Nations Charter. But from the actual point of view there are only the limitations imposed by the technical, scientific and material advancement of the respective States. Viewed from this angle, one reaches the conclusion that, while the developing countries would be in an equal position with the developed countries in as far as obligations are concerned, they would however be in an unequal position with regard to their right to verification by national means. Mr. Roshchin acknowledged the legitimate concern of the developing countries in this respect. In his speech on 11 July he stated: "...it was pointed out during discussion of the question of control that, with only national means of verification, countries lacking adequate scientific and technical capabilities would find themselves at a disadvantage in comparison with the more developed countries."

(CCD/PV.567)

One way of offsetting some effects of this disadvantage would be through making verification by international means more readily available for developing countries. I refer here to functions which would be constantly performed by an international organization or an international unit for verifying the application of the treaty parallel to its verification by national means. Such an international organization or unit would collect and process, on a permanent basis, information and data concerning the application of the treaty. It would also distribute periodic reports and in some cases even specific or special reports on the operation of the treaty. Various delegations have pointed out these possibilities, particularly during the informal meetings; and some working papers before the Committee have equally included various pertinent ideas in this regard. We need to agree on the most workable and efficient among them.

But I wish at this juncture to refer to one particular aspect. The reports that would be published by such an international organization or unit should not be confined to scientific and technical analysis of the data received. They should also contain conclusions in ordinary language which could be easily grasped by the various agencies and personnel in developing countries. The need for this becomes more relevant when a developing country would wish to resort to the complaints procedure envisaged in article VI of the socialist draft. Such a country would have to depend largely on the technical material translated into readable language, so as to be able to submit a complaint accompanied by evidence.

The stage of data collection, analysis and reporting could set in motion the operation envisaged in articles V and VI of the socialist draft, namely consultations and co-operation and the launching of complaints. But we should envisage a stage which would separate between the launching of complaints and the political action to be undertaken by the Security Council. This has been described by the representative of the Netherlands as the stage of fact-finding, which should be automatically available if suspicion and doubt persist. These points are among the main features which, we believe, are necessary for a workable verification system.

CCD/PV.574

p.8

Morocco/Al-Arbi Khattabi

3.8.72

CTB

The discussions which have taken place in the Committee over recent years have shown that the solution to the problem of underground nuclear tests now depends solely on the political will of the Soviet Union and the United States of America.

We know, not only from the reports of experts but also from the effective contribution which member delegations, in particular those of Canada, Japan, the Netherlands and Sweden, have made to our discussions in the Committee, that the thorny problem of verification of compliance with the prohibition of underground tests could be solved effectively by seismological methods.

We also know that the establishment of international co-operation in the detection, location and identification of underground nuclear explosions by seismological means is not only necessary but possible and promising.

In this connexion I should like to congratulate the delegations of Canada, Japan and Sweden and thank them for the encouraging results of the informal conference held last June at Tokyo with the participation of representatives of their scientific bodies. Working paper CCD/376 has given us very useful information on this conference, which produced an understanding "on steps to improve tripartite co-operation including data exchange for future research" on seismological discrimination. In our opinion this tripartite co-operation is likely to encourage other countries to work towards the creation of a world-wide exchange of seismological data with a view to the prohibition of underground tests of nuclear weapons.

CCD/PV.575 pp.7-12

UK/Godber

8.8.72

CW

Next there is the still very difficult problem of verification. We have, I believe, learnt much on this subject during the summer as a result of our exchanges of views and information. We all start from the position that a mixture of international and national verification methods is going to be essential. And we have examined the possibilities in quite some detail. We agree that no single method has emerged that would be clearly capable of providing all States with reliable means of assurance that other States were observing bans on production or on stockpiling of CW. We have, however, discovered some possibilities that taken together might go some way towards providing a degree of assurance that certain aspects of the cycle from research to deployment might be detected. At the same time, the Committee may now be ready to accept that a complaints procedure, including one that separates the fact-finding phase from the taking of decisions about remedial action, is not verification, although of course it may constitute a partial deterrent. So too I think the Committee accepts that the reworking of nationally-provided information by an international body does not constitute direct international verification. Increasingly, in my view, the Committee is coming to accept that, in order to have any chance of being reliable, any system of verification of the ending of production or of stockpiling of CW would have to include a certain amount of on-site inspection. The Yugoslav working paper (CCD/377) acknowledged this, although making the decision to carry out inspection subject to a Security Council decision. The representatives of Italy and the Netherlands have also made this point unambiguously clear. What we have not found so far is agreement that on-site inspection would be either physically practical or politically acceptable as a principal element in the verification provisions of a comprehensive agreement abolishing chemical weapons.

Now as to how we should proceed. Earlier in the year the Committee devoted time to consider an approach suggested by our Swedish colleague Mrs. Myrdal, when she stated that "we should organize the work [towards an eventual CW agreement] in stages to make it more manageable" (CCD/PV.549, p.12), without necessarily embodying these stages in treaty form before the subsequent steps were finalized. This approach seemed attractive, and my delegation suggested on a later occasion (CCD/PV.557, p.13) that "As a method of proceeding, there is obvious advantage in isolating the easier problems and completing work on them first. This is not necessarily the same as proposing a series of agreements or protocols. The Committee might, however, prefer to work by this method". Our suggestion here was that, as we completed stages, we might embody them in a concrete form so that they could come into force without further delay caused by problems whose solution was recognized to be difficult and for which there was no guarantee of early success.

Before pursuing this idea further, I should like to remind the Committee of a point which I know has been made before. It is that, in examining possible measures of arms control in the CW field, we must establish a proper proportion between the intended scope of an agreement and the means available of satisfying the parties that its provisions will be fully respected. There are two ways of applying this criterion: it is possible to establish the desired goal and then to seek measures of verification adequate to ensure its fulfilment. Or, alternatively, we can identify the possibilities for verification which are available and then propose appropriate arms-control measures to suit them.

It is necessary here to bear in mind that there are considerable differences between States as to what they see as an adequate proportion between scope and verification. We are looking for a régime which will suit the requirements of the majority of the world's States, indeed I hope of all States. We must therefore consider how the interests of the various States differ.

States which feel themselves in any way threatened by the highly-toxic chemical weapons available today will need very firm assurances that a potential adversary has really discarded such weapons. On this subject we have, as I said, learnt a great deal as a result of the exchange of views and information during the summer. While there could perhaps be inspection of specific and declared activities such as the destruction of stockpiles, we are little further forward in being able to achieve what I might perhaps call negative assurances. By that I mean that it is difficult to prove, whether by national or international means or by a combination of both, that in some remote corner a particular material does not exist or that a particular activity has not taken place or is not now taking place; and that is what I mean by negative assurances.

In these circumstances, the possibility of retaliation in kind has been regarded as offering the best available assurance that such weapons would not be used in time of war. Such a possibility is not a guarantee of non-use, but it has in the past proved effective. However, one must recognize that not all States which might believe themselves potentially menaced by CW have a retaliatory capacity at their immediate disposal, although of course the technical means of providing such a capacity may be available to them. There are, on the other hand, States which, if they felt themselves threatened by chemical weapons, would be prepared to meet the development of a threat by purely defensive measures. Finally, there are States which may feel that they have at present no defence and no deterrent against the use of chemical weapons and that therefore any ban, however poorly verified, that would support the ban on use contained in the Geneva Protocol would be worth having. One can understand that view, but I do not think it is a view that could be used as the basis for a comprehensive treaty.

With these facts in mind, the desired goal of my delegation, and I believe of all the delegations around this table, is a comprehensive ban on the development, production and stockpiling of chemical weapons and their destruction. We have subscribed to this view in resolutions and in the treaty commitment in the Bacteriological Weapons (BW) Convention, which all but one or two States represented in this Conference have now signed. But, as in all journeys, we must start from where we are, rather than where we might like to be.

I would therefore now like to mention some aspects which the Conference will need to take into account in tackling the problems lying before it, and to draw together what I mean.

First, we should recognize clearly and openly that what we are confronted with in achieving a convention on CW is by its very nature much more difficult and complicated than was the achievement of a convention on BW. That, after all, was the reason why this Conference chose to divide these two matters; and that is why, with the greatest

respect to the sponsors of the draft in CCD/361, I would say that progress on the basis of that draft is likely to be very difficult simply because it appears in all its essentials to be almost a replica of the BW convention. We need something more than that for CW, and I believe that that is generally recognized in this Conference.

Secondly, the discussions that we have had, and particularly the meetings of experts at the beginning of July, have shown the possibilities for clear definition of what is to be covered by a CW ban. Substantial progress has now been made in this field, and I think it should be possible to produce definitions, which could figure in any draft convention brought forward, of at least the organophosphorus compounds to be banned.

Thirdly, I think we are all aware of the enormous problems in the whole field of verification, which I have already touched on. The very nature of chemical weapons and the ever more complex evolution of the use of chemicals in normal productive industry shows how difficult it is without effective verification to achieve any certainty about the actual production of chemical weapons. Anyone who sees a modern petro-chemical works will readily understand what I mean.

Therefore, if we are to make progress in this field, we have either got to accept the need for international on-site inspection, with all the practical problems that this would involve, or we have to decide what CW disarmament measures might be agreed without the assurances that such inspection would give. For example, limited agreement might be possible on a basis of declarations of national stocks and declarations of national productive capacities provided by member States to an appropriate international body, giving the fullest information on the use by a State of chemical products that could be diverted to CW production. There would need to be in such a case regular provision of information by States members of the convention, and there would have to be opportunity for consultation and requests for further information to be handled through the international body concerned. Such a régime would be supported by such national verification techniques as today exist.

If one accepts that, without better verification arrangements than have so far been devised, we cannot move now to complete abolition of all forms of CW in existing stockpiles together with all forms of productive capacity, then the question arises, would it be possible to achieve our major objective in two stages? That is, one stage would be the elimination of stockpiles (with a freeze on production) and the other would be the elimination of productive capacity.

At this point I merely pose the question, but immediately another question arises. Even if we were to accept the thesis that this could be done in two stages, which stage should be contemplated first? If we are to eliminate stockpiles first, can we really be sure that all stockpiles have been disclosed? Technical information on this subject has been provided in the United States working paper CCD/367 tabled on 20 June. Some degree of what I might call "demonstrative verification" could be applied to this activity, but compliance with the ban would rest ultimately on the security provided by the retention of a potential production capacity.

On the other hand, if one proceeds by the cessation of production while retaining stockpiles, then one leaves the resources in the hands of those who already possess these weapons, while the ability of others to create stocks designed to deter the use of CW by potential enemies would be removed.

Which stage should precede the other if such a decision were taken would be for the Committee to consider. I merely list them as logical steps that can be taken if we decide that the achievement of a complete and effective convention on the banning of all chemical weapons cannot be realized in one step. There may well be other points of departure which delegations would wish to suggest.

Whichever initial stage were agreed, it should be accompanied by a commitment to proceed to a final stage at which the prohibition on CW would become comprehensive.

And I attach great importance to that. This would have to be in accordance with the possibilities yielded by progress on the techniques of verification, the willingness of States to accept the implications of these techniques, and the development of their assessment of the political, military and security considerations involved. This, after all, is the essence of our problem in seeking a convention on CW.

I reiterate that it is the desire of the British Government to achieve a complete convention to ban production and stockpiling of all CW; but it is because I frankly realize the enormous difficulties that confront us at present in achieving agreement on verification measures which are going to satisfy us all that I wonder whether possibly an approach by progressive stages may not be helpful in enabling us to move forward.

CCD/PV.576 pp.15-17

Pakistan/Naik

10.8.72 CTB

Another compelling reason for concluding an agreement on an underground test ban is that, when the Moscow Partial Test Ban Treaty was signed by the three nuclear Powers in 1963, they gave a solemn pledge that they were seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time and that they were determined to continue negotiations to this end. In spite of this solemn pledge — and we very much regret to state it — little progress has been made in the past nine years for agreeing on a comprehensive nuclear test ban.

The main reason for the lack of progress in this area, as we all know, is due to disagreement on the question of verification. Insistence, on one side, that the national means of detection are adequate, and on the other that on-site inspection is essential, do not permit an agreement on this question to be concluded.

A number of general and specific suggestions have been offered by delegates to resolve this issue. It is not my intention to catalogue or comment on all or most of them. But our delegation fully shares the view that seismological means of detection, through national facilities and international co-operation, provide a viable system of verification. This method, combined with verification by challenge, as proposed by Sweden, should in our view constitute an effective method of verification. Further, we would venture to suggest that Article XII, providing for national means of verification, and Article XIII, providing for a standing consultative commission for resolving the issues relating to verification of the SALT Anti-ballistic Missiles Treaty, could also provide a model for an underground test-ban treaty.

While we recognize that the lack of progress on this question is due to a lack of political will to resolve this issue, it has to be recognized that, if this lack of political will persists, then the Moscow Test Ban Treaty and even the recently-concluded SALT agreements are bound to be undermined and an overwhelming majority of States will gradually but certainly attach less and less significance to them.

Equally serious is the fact that the lack of agreement on this question threatens to undermine the nuclear non-proliferation regime which the Nuclear Non-Proliferation Treaty (NPT) aims to establish. Although the NPT has been signed by 100 States, ratified by 69 and acceded to by 4, and entered into force in March 1970, it has not achieved its goal of insuring against horizontal proliferation of nuclear weapons, for two reasons. First, some of the signatories which have the capacity to produce nuclear explosive devices have not ratified the Treaty. Secondly, and more serious, some of the countries which are in a position to produce nuclear weapons have not even signed it and have declared their intention to explode so-called "peaceful" nuclear devices.

As delegates know very well, and it has been confirmed by the text of the NPT and also both here and in the First Committee of the United Nations General Assembly by the representatives of the two super-Powers, repeatedly, that, as there is no difference

between nuclear weapons and so-called "peaceful" nuclear explosive devices, production of such devices by any non-nuclear Power would inevitably mean that that Power had become a nuclear Power and thus the very basis of the non-proliferation regime which the NPT aims to establish would crumble.

Consequently the achievement of a comprehensive test ban, which would also prohibit so-called "peaceful" nuclear explosions by non-nuclear-weapon States, would strengthen the NPT, as it would provide a further restraint on the horizontal proliferation of nuclear weapons through the "peaceful" route. In our view it is essential that an underground test ban should be so devised that it had no loopholes whatsoever permitting a State to become a nuclear Power through the production of so-called "peaceful" nuclear explosive devices. It was this concern which led the delegation of Pakistan to submit a working paper on this subject last year (CCD/340). As delegates will recall, we proposed in our working paper that an underground test-ban treaty should include, as the NPT does, two kinds of provisions -- one for the nuclear-weapon States and the other for the non-nuclear-weapon States. As regards the nuclear-weapon States, the treaty should prohibit all underground nuclear-weapon test explosions. They might be permitted, however, to conduct explosions which were for peaceful purposes and would take place in accordance with international arrangements to be concluded separately for this purpose.

As regards the non-nuclear-weapon States, the treaty should prohibit all underground nuclear explosions whether or not they were in the category of weapon tests. However, as our working paper specifies, non-nuclear-weapon States might obtain the benefits of nuclear explosions conducted for peaceful purposes for them or on their behalf in accordance with the international arrangements to be agreed upon for this purpose. Lastly, the treaty should define the categories of the nuclear-weapon and the non-nuclear-weapon States in accordance with the criterion laid down in the NPT.

I have explained our views on this question once again in some detail in order to re-emphasize the concern which the delegation of Pakistan, and indeed many other delegations, feel regarding this matter. It is our firm conviction that if the question of so-called "peaceful" nuclear explosions is left unresolved in the context of a test ban, the non-proliferation regime which the NPT aims at establishing will prove to be a mere illusion.

CCD/PV.577 pp.11-12

Hungary/Petran

15.8.72

CW

Another important matter on which the Committee has been concentrating recently is the system of guaranteeing observance by all States parties to the future convention of the responsibilities they have assumed in connexion with the complete prohibition and destruction of chemical weapons.

Articles IV, V, VI, VII and IX of the socialist draft convention provide for such a system, which consists in a combination of both national and international forms of control. Since it will be impossible in practice to establish a system based exclusively on international forms of control for verifying observance of the obligations arising under the convention, for that would also affect other very important State interests -- economic, trade, protection of industrial property in connexion with the need to patent new inventions -- the draft convention must contain a system of guarantees which will reliably ensure observance of its obligations. Broadly speaking, we believe this can be achieved by establishing conditions "under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained" -- in the words of the Preamble of the Charter of the United Nations.

In the context of this wide approach I should like to refer to the view which

President Nixon expressed recently in his article published on 26 June in the magazine "U.S. News and World Report", under the title "The Real Road to Peace", in which he writes, inter alia -- and I quote from the original English text in order to avoid possible errors in my translation:

"A sound structure of peace ... it must depend upon patterns of understanding among a wide variety of governments. These patterns of understanding, in turn, do not simply involve a knowledge of what other countries and other peoples are like, or what they are thinking. Rather, they must be very concrete mutual understandings as to which patterns of international behaviour are acceptable and which are not, and in which nations undertake to perform in specified ways under specified conditions. Some of these understandings are written into treaties or executive agreements. Many others are not, but they nevertheless constitute an important part of that written and unwritten code by which the relations among nations are regulated.

"Nothing could be more destructive of our hopes for peace than failure to recognize the need for such disciplines".

It should also be pointed out that, besides international law, States also have at their disposal national legislation for regulating their mutual relations. By means of national laws, States cannot only prohibit but also provide effective means for combating possible violation of the provisions of the convention. Such measures by States parties to the convention would also have a positive effect on the lawmaking of individual countries and of the international community as a whole.

It seems to us that, given good will and sincere effort on all sides, it should be possible to work out a satisfactory system of guarantees, based on a certain degree of trustworthiness of the treaty States -- without which it is impossible in general to conclude any kind of agreement -- incorporating a rational combination of national and international forms of control, and having regard to the possibilities of harmonization, unification and the prospects for national forms.

CCD/PV.577 p.19

USSR/Roshchin

15.8.72 CTB

Everyone knows that the main stumbling-block on the road towards the solution of this problem is the question of systems and forms of control. The Soviet side still constantly asserts that national means of detection and identification are sufficient to control compliance with a ban on all nuclear tests, including those under ground. It gives us satisfaction to note that the Soviet position on this question is appreciated more and more fully by an increasing number of States and representatives of various political and scientific circles. Evidence of this can be found particularly in a joint working paper on the identification of underground nuclear explosions submitted recently to this Committee by Canada and Sweden (CCD/380). This paper points out that the probability of mistaking an earthquake for a seismological event and consequently of a false alarm is one per cent, and that the probability of correct identification exceeds 95 per cent. This level of precision in identification, according to the documents, has been achieved by co-operation between a Canadian and a Swedish array. As the representative of Sweden, Mrs. Myrdal, pointed out in her statement in this Committee on 25 July, the probability of correct identification when only Hagfors data were used was 75 per cent.

International co-operation in exchange of seismological data between many countries provides -- and the Soviet Union is well known to be ready to take part in such co-operation, if certain requirements are met, under a treaty on cessation of under-

ground nuclear tests -- and increases the possibility of detecting and identifying all underground explosions by national means of control.

CCD/PV.578 pp.9-11

Argentina/Berasategui

17.8.72

CW

2. Verification procedures

Both documents CCD/310 and CCD/352 have referred very clearly to the problem of verification. Paragraph 7 of the former states that

"adequate verification is also essential in regard to the success of any measure in the field of disarmament. Reasonable guarantees and safeguards should, therefore, be devised to inspire confidence in the implementation of any agreement in the field of C (chemical) and B (biological) weapons. Verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system which would ensure effective implementation of the prohibition".

This criterion was adopted by General Assembly resolution 2827 A (XXVI).

The combination of national and international means of verification is the practice commonly followed in disarmament and arms-control measures. It is obvious that consultation and co-operation between States is essential for the success of any scheme to ensure the fulfilment of treaty obligations. Article V of the draft convention of the socialist countries contains, in this regard, an appropriate approach. But we believe that in this case not enough progress has been achieved. Though consultation and co-operation are the basis of an international verification system, in our opinion they are not an international verification system in themselves.

The obligation to consult and co-operate raises the same difficulties to which we referred while commenting on the scope of the prohibition. This formula is so wide that it leaves many aspects without solution, especially if we take into account that the verification procedures ought to concern different activities that therefore raise different problems.

Documents CCD/360 and CCD/361 coincide in excluding research from the activities the prohibition of which ought to be examined. Therefore the Committee is now considering three activities that should be subject to verification: the development, production and stockpiling of chemical weapons. As we have pointed out before, these activities are of different nature and we do not think it will be possible to guarantee effective verification solely through consultation and co-operation. For example, the problem of development of chemical weapons is very difficult to control, but it is true that this activity does not imply an immediate threat as long as the violator of the prohibition does not pass to the stage of production. On the other hand, production raises another substantive problem, the conditional or unconditional prohibition of chemical agents according to their nature. Lastly, the question of stockpiling of chemical weapons, which poses more complex problems, ought to be taken into account. In this connexion the remarks contained in document CCD/360 are very useful. This stage differs from the stage of development, for stockpiling immediately threatens the security of States.

We do not believe that the Committee has sufficiently examined the different problems that an effective verification system raises for the various activities like those we have pointed out. Each of these activities also present specific problems.

In fact, we think that the possibilities which might be offered by a verification system that included on-site inspection have not been analysed. We think this necessary for two reasons:

(1) National means of detection pose certain limitations that may lead to a double paradox. If verification concerns data monitoring, it will be much easier where the State subject to observation produces fewer types and quantities of chemical weapons. Control will therefore be more effective over those who have fewer possibilities of developing a system of chemical weapons. With regard to other national means, States which have not reached a high technical and scientific level are bound to lack the appropriate instruments of control. In this sense we do not doubt that a larger number of States are capable of producing chemical weapons than those able to observe fulfilment of the convention through satellites, if these were used as a complement to other verification measures.

(2) Some concern has been expressed in this Committee at the possibility that a system of on-site inspection might facilitate access to military and industrial secrets. It is legitimate to pose this question of vital importance. But we do not think that this would happen if due precautions were adopted. Furthermore, we believe that experience indicates the contrary. The safeguards system of the International Atomic Energy Agency (IAEA) in which my country participates, provides rules to protect commercial and industrial secrets. Besides, the only international authority existing with respect to chemical weapons, the inspection regime applied by the Arms Control Agency of the Western European Union, also protects secrets of that kind. Concerning military secrets, it is worthwhile to remember that the draft treaties on general and complete disarmament drafted by the Soviet Union and the United States provided a system of on-site inspection for chemical weapons. It is true that they referred to wider proposals than the one we are now examining, for they sought absolute disarmament, and in that context it could be maintained that the possibility of violating military secrets would not exist. But it is also true that they contemplated disarmament through stages, and that therefore the risk of violation of military secrets would have arisen at any moment of the process.

Article VI of the Convention on bacteriological weapons contains a solution in the case of violation consisting in the possibility of complaining to the Security Council, which can order an investigation. At the time this Treaty was negotiated we expressed our doubts of this procedure (CCD/PV.512, para.58). We now share the opinion expressed by the representatives of the Netherlands and Sweden (CCD/560 and CCD/PV.569) on the need to separate study of the facts from political decisions. We think that the possibility of extending the veto to investigation of the facts is not only discriminatory but also lacks a firm legal foundation.

CCD/PV.579

pp.8-10

Brazil/Guerreiro

22.8.72

CW

....For this reason we are ready to give all due consideration to the British suggestion that "on the road towards the complete CW convention which we all wish to achieve, we might perhaps pause to see whether some intermediate measure might be worth securing as a first stage".

The Brazilian delegation, however, has been unable to find another point of departure that might lead to a solution by stages, except perhaps as regards the form of execution of a general and comprehensive treaty. In the first instance we ask ourselves whether, mainly for countries not engaged in the production of chemical weapons, the decisive element would not be the availability of assurance that all States -- super-Powers, big Powers, medium Powers and small Powers -- have destroyed their stockpiles and whether, in order to have these assurances, they should not insist on highly effective means of verification that would include direct international supervision in this initial stage, the necessarily transitory stage of destruction of stockpiles.

In fact it is not impossible to obtain reassuring information that a developing country that does not have a chemical weapons industry is implementing an international commitment not to develop such an industry. Its new activities in the field of chemical industry are generally known, the economic indicators are accessible and a system of reporting and comparative analysis of data can provide this assurance. But in relation to countries that already have stockpiles of chemical weapons, verification based exclusively on unilateral declarations cannot provide assurance that these stockpiles have in fact been destroyed. It may thus occur that a convention creates a dangerous and inadmissible de facto discriminatory situation.

For this, among other reasons, we are arriving at the conclusion that it might perhaps be necessary to begin by the destruction of stockpiles, which in our view would be a primary factor for the equalization of situations among the parties. In other words, we should begin by the disarmament of the armed before dealing with the non-armament of the unarmed.

It is a reasonable assumption that the elimination of stockpiles in a first stage — which would of course have to be accompanied by the cessation of production — would facilitate the solution of verification problems in the subsequent stage. Once the destruction of stockpiles has been proved by direct international verification methods, including what has been called "demonstrative verification", a climate of confidence would have been created in which a system based on measures of "self-control" and on national and international indirect methods of verification might perhaps become politically acceptable in the following stage of prohibition of development and production.

Bearing in mind the need to keep in sight our objective of a comprehensive prohibition — the prohibition of the development, production and stockpiling of chemical agents of warfare — we might contemplate disposing of the two stages in a single international instrument. In order to avoid the creation of a discriminatory situation, such a treaty would enter into force immediately for the countries that produce and/or stockpile chemical weapons, in terms of a commitment for their destruction and for the cessation of production. For the remaining countries — that is, those who neither produce nor stockpile chemical weapons — the treaty would enter into force when the complete destruction of existing stockpiles of chemical weapons had taken place. All parties would then be bound by the general obligation not to produce or develop chemical weapons.

These considerations obviously do not constitute a formal proposal. They are, above all, a reflexion, inspired by our debate and made for the purpose of offering indications that might facilitate the work of this Committee, through a better knowledge of some of the preoccupations of developing countries with regard to the possible discriminatory implications of formulations that have up to now been considered in the search for our common objective of a comprehensive prohibition of chemical agents of warfare.

I now turn to the question of factual inquiry mechanisms and complaints procedures, seen from a general angle and related to any case of suspicion of violation of a convention.

In the debate during the 26th session of the General Assembly, speaking of the Convention on Biological Weapons (BW) I had the opportunity to state that "the Brazilian delegation was ready to accept a certain refinement in the procedures, such as the system of verification by challenge, or, in the case of a complaint involving allegation of use of the prohibited weapons, the granting of authority to the Secretary-General to put into operation immediately a strictly impartial and factual inquiry mechanism". I went on to say: "In the specific case before us perhaps they are not absolutely indispensable and their absence should not deter us from concluding the Convention". I was thus making clear that the renunciation of a form of investigation of facts that would be impartial and free from the veto constituted an exception for the

specific case of the BW Convention, bearing in mind its particular characteristics. At the same time I suggested that, for disarmament matters in general, perhaps "other possibilities might be profitably explored within the framework of the Security Council itself" (A/C.1/PV.1837).

During the summer session some delegations have made suggestions about a system of factual investigation of complaints of violations that would be impartial and that could not be paralysed by the arbitrary decision of one of the parties to the Convention. I believe that a system of this type, in an appropriate form, would be indispensable. There are several possible forms for such a system. If a technical and scientific organ charged with the collection and analysis of information provided by the parties to the Convention according to standard models is eventually set up, the idea of attributing to this organ the function of carrying out, without outside interference, the investigation of alleged facts could occur naturally. Another possible solution would be the creation of a panel of experts nominated by the parties, among whom the Security Council, by a merely procedural decision, would choose the members of the inquiry commission that would act independently and would present a factual report on the alleged violation.

Finally, I should like to recall that any approach that we decide to adopt could not fail to take into account some general principles of importance for the developing countries in the field of disarmament.

The first point refers to the need to avoid the risk that an agreement on the prohibition of the development, the production and the stockpiling might create -- or be interpreted as creating -- any kind of obstacle, limitation or difficulty for the full and unrestricted scientific and technological development and for the free production and utilization of chemical agents for non-military purposes. Much to the contrary, the agreement must expressly provide for the promotion of international co-operation for peaceful purposes in the field of chemistry. This principle should permeate not only the provisions related to the scope of the prohibition but also those connected with control and verification systems. The agreement would otherwise not be generally acceptable. More than two years ago the Minister of External Relations of Brazil had the opportunity to state here that "disarmament agreements, while closing the door to the development of weapons of mass destruction, should not in any circumstances be permitted to have disruptive effects on the scientific, technological and economic future of developing nations" (CCD/PV.477).

CCD/PV.579 pp.11-13

UK/Hainworth

22.8.72

CTB

On 25 April this year the United Kingdom Minister of State, Mr. Godber, introduced a Working Paper (CCD/363/Rev.1) on the limits of our ability to make accurate estimates by seismographic means of the yields of nuclear explosions. He told the Committee then that one of the essential conditions for verification of a comprehensive test-ban treaty would be a system of exchange of national seismic information, and that the effectiveness of such a system would depend partly on the effectiveness of the system adopted for the collation and transmission of data. As Mr. Godber said then, this is a subject on which research has been under way in the United Kingdom in pursuance of ideas put forward in our Working Paper CCD/296 of 28 July 1970.

The Working Paper (CCD/386) which I am tabling today deals precisely with this problem of seismic data handling and analysis for a comprehensive test-ban treaty. By way of background I should like very briefly to give an account of the course of United Kingdom research into this question.

The paper has its origin in United Kingdom research into systems for monitoring

underground explosions going back to the early 1960s. Working Paper CCD/296 described a monitoring system in some detail, presenting the detection and discrimination capacity of a worldwide network of 26 seismograph arrays; it discussed also the time scale and the cost for setting up such a system. One of the problems left for further study was that of processing the data recorded by these arrays so as to realize their full potential. Our paper CCD/296 suggested the installation at each seismic station of a small computer to assist with the data processing. The requirements and design of such a computer-aided data-processing system had not then been studied in detail. But subsequent research has enabled the United Kingdom experts to put forward in the present Working Paper an outline of a system which would be appropriate for the task in question.

The Working Paper before you goes in detail into the problems of data analysis in a seismic array system. The basic consideration is that the full capability of each individual station in the network should be realized by suitable processing of data at the station itself, thus making it possible for an analyst at each station to make a first analysis with the benefit of a fully-processed array recording. We believe the data-handling system we are suggesting should prove effective and economical. One further benefit of this method is that it could in some circumstances put States which participate in the network in a better position to assess the seismographic evidence for themselves than they would be if all data were transmitted immediately for processing to an international or regional centre.

As part of this research our experts have designed equipment to do the job described in this Working Paper. We call this a Seismic Array Station Processor (SASP). Such a processor is now under construction, and should be operational by the end of 1973. We hope to be able to report to the Committee on its performance soon thereafter. Its cost is estimated at 30,000 pounds. This figure is one-quarter of our earlier estimate, and this economy, together with certain other savings, means that the proposals in CCD/296 can be estimated, at today's prices, at about ten million pounds instead of fifteen million pounds. Such savings in the estimates can, we believe, be made without loss to the efficiency of the proposed system. I end on this encouraging note.

CCD/PV.580 pp.16-21

Japan/Nisibori

24.8.72 CTB

In his statement on 27 April the delegate of the United States, Mr. Martin, said that the United States was prepared to consider the Japanese proposal for further analysis. In order to clarify and to solve the difference of views between the United States and the Soviet Union on the question regarding the need for an on-site inspection, we should like to ask the United States delegation to give a full account of their analysis of our proposal. We should like to have them explain in particular the technical reasons why the United States regards an on-site inspection as still needed, by giving concrete figures based on concrete cases. By the same token, we should like to know in concrete terms what kind of on-site inspections the United States would require on technical grounds and also in what manner and to what extent such inspections are to be implemented.

On the other hand, the Soviet Union has taken the position that an on-site inspection is neither necessary from a technical point of view nor acceptable from a political point of view. However, under the Non-Proliferation Treaty on-site inspections are carried out by the International Atomic Energy Agency (IAEA) in non-nuclear weapon States. Not only that, but we consider it very important in the event of realization of a comprehensive test ban that all explosions of nuclear devices for peaceful purposes should be carried out only under international control by the IAEA.

The delegate of the Soviet Union, Mr. Roshchin, in his statement on 18 April, remarked in reference to our proposal of 28 March: "It is significant that this higher 'threshold' was proposed at a time when ... 'the outstanding progress made in science and technology in the present-day world enables even small-scale underground nuclear tests to be detected and identified solely by this seismological means.'" (CCD/PV.557)

However, what I tried to make out was the point that the threshold of verification by seismological means is expected to be reduced further to the level of magnitude 4.25 in the near future, provided that a multilateral network of seismological stations is established for such a purpose. On the other hand, in suggesting the threshold of magnitude 5.75, above which I called upon the United States and the Soviet Union to take immediately measures of restraint, I meant that the detection and identification of underground tests of such magnitude is possible with a high accuracy by using only the existing techniques and facilities available in such countries as Canada, Sweden and Japan, and therefore could be put into practice at once.

In other words, the former represents a threshold which can be adopted in the future when a multilateral network is established, whereas the latter represents a threshold which we can adopt right now.

In this connexion we are curious to know whether and how the Soviet Union has been able to detect and identify, by its national means only, any and all of the underground tests so far carried out in the various parts of the world.

With your permission I should like to refer once again to the statement made by the delegate of the Soviet Union. In the same statement of 18 April Mr. Roshchin commented: "(The Japanese proposal) would not contribute to a solution of the problem as a whole ... Endless disputes and conflicts between States would be caused by the question whether a particular explosion was covered by the prohibition or not." As I recall, a similar comment was made by Mr. Bos of the Dutch delegation on 29 April of last year.

In anticipation of such a comment, I had clarified the point in my statement of 28 March. I said:

"This question, however, will be easily solved, if observation instruments of a sufficiently accurate standard are installed beforehand around the testing State, or at some other designated places which are deemed proper, and States concerned have previously reached a definite agreement on technical and procedural matters, as will be mentioned later, so that a unique and automatic decision may be made on the detection and identification of underground nuclear tests above a clearly-fixed level, and on the existence or otherwise of a violation of the obligation. Further, as to the possibility of a nuclear explosion occurring near the threshold, it is probable that, since the testing State will endeavour to keep the nuclear explosion below the scale which is deemed definitely safe in order to avoid violating its obligation, the possibility of the occurrence of a nuclear explosion near the specified threshold will be staved off deliberately and that the scale of the underground nuclear tests which will be actually made will be kept within that of a considerably low yield." (CCD/PV.553)

We are convinced that the solution of this question is quite within the bounds of technical possibility, if only given the necessary political will on the part of the United States and the Soviet Union.

There has been considerable progress in the study of an accurate estimation of magnitude of a given event by the use of long-period surface waves, which are comparatively insensitive to regional differences in the crust and mantle of the earth. The problem posed by the delegation of the Soviet Union will therefore be solved by

adopting magnitude estimation by a certain number of standard seismic stations which are carefully selected in advance for such a purpose. One of the aims of our proposal of 28 March calling for a tripartite network of seismological stations was precisely to do that.

We believe it is possible to obtain sufficient data on surface waves caused by nuclear explosions of magnitude 5.75 and above -- that is, the figure which we proposed as a first step towards a comprehensive test ban. Therefore it would not cause us much difficulty in making the magnitude estimation I have just mentioned.

As we reflect further on the position taken by the Soviet Union, that is the assertion of a CTB relying only on what it calls "national means of verification", or its support for the threshold of magnitude 4.75 plus a moratorium on explosions below that level, we wonder whether its idea might not cause disputes of the same nature as those pointed out by the Soviet Union with regard to our proposal.

If it were technically difficult to estimate magnitude 5.75 or above, it must surely be more difficult to estimate magnitude 4.75. We can hardly understand how the detection and identification of all seismic events down to a very low magnitude which are needed for a CTB should ever be easier than the estimation of magnitude 5.75 and above.

In view of the above-mentioned considerations, would it be too much for us to hope that the Soviet Union would make a positive contribution to improving our seismic means of verification by making available the source parameters on nuclear explosions carried out in the past by the Soviet Union, i.e. time of occurrence, location, depth, yield, geology of the site, etc.? At the same time we are anxious to hear from the delegation of the Soviet Union its views, endorsed by concrete examples and figures, on those questions we have asked earlier.

Let me turn now to another comment of a technical character made on our proposal.

On 25 April the delegation of the United Kingdom submitted a very valuable working paper, CCD/363, which showed that the magnitude scale based on surface waves is less subject to regional differences than that based on body waves, and that therefore the employment of surface-wave magnitude is more adequate for estimating explosion yields. We have closely studied the contents of the United Kingdom paper with the help of our seismologists and are prepared to accept the merits of its argument.

In the debate on this question in the Committee, however, we have customarily used the small mb; and, if we started suddenly to use the large MS, which is a different scale, we thought it would cause considerable numerical confusion in keeping the continuity of the discussions we have carried on so far.

We could certainly employ surface-wave magnitude for the estimation of explosion yields. On the other hand, however, we should still have to use mb for obtaining the ratio of MS to mb, which is one of the important discriminants for identification and also for the estimation of magnitude of low-yield events, for which the observation of surface waves is very difficult.

In this context it is necessary for us to investigate how the fluctuation of mb depends on the combination of source and station. Exchanges of seismological data on nuclear and chemical explosions as well as on natural earthquakes in each country are essential in order to enhance the accuracy of seismological means of verification. We hope that nuclear-testing States will co-operate in a positive manner in the exchange of data in this field.

With a view to following up our proposal of 28 March, and in line with successive General Assembly resolutions related to the subject, I informed the Committee on 20 July that the Canadian, Swedish and Japanese experts in seismology had exchanged their views in informal meetings held in Tokyo last June and that they had agreed to promote further their co-operation on the question of seismological detection and identification

of underground tests.

The joint Working Paper (CCD/376) which I had the honour of submitting on behalf of the delegations of Canada, Sweden and Japan to the Committee gives an account of the agreement reached among these experts. In particular I should like to call the attention of the members of the Committee to the following passage:

"It was agreed to collect the tripartite data for the continuing study of the identification of underground consolidated rock explosions of intermediate yield and larger, at which explosion yield levels it was agreed that there is already a high probability of explosion identification."

Here I should like also to add that the agreement reached among the experts has been endorsed by the Governments of Canada, Sweden and Japan.

We believe that such data exchange and international co-operation as have been agreed upon among those experts, and the development of such a tripartite co-operation into further multilateral co-operation among nations, would facilitate the implementation of any measures for an early realization of a CTB, regardless of whether or not nuclear-testing Powers would agree on any specific interim measures. We are firmly convinced also that such international co-operation would be indispensable whenever a comprehensive test ban is achieved.

CCD/PV.580

pp.28-34

USA/Martin

24.8.72

CTB

The United States is prepared to give up the advantages derived from nuclear-weapon testing only if we can be assured that other treaty partners are abiding by the same restrictions. If one party to a CTB accepted this restriction while another party, by means of clandestine testing, continued to improve the military effectiveness of its systems, this could in time lead to an adverse effect on strategic stability. Even if all parties to a treaty abided fully by all treaty provisions, a lack of adequate verification capabilities could foster uncertainties about whether other nuclear Powers were actually complying with the treaty in all respects. Such uncertainties could, under some circumstances, lead to strategic and political instability because of the efforts that one nation might make to hedge against unknown but feared developments elsewhere. One of the objectives of arms limitations, I am sure we would all agree, is increased stability, not additional instability.

The thought has been expressed many times that the nuclear-weapon developments that might be attempted clandestinely under a CTB verified by national means would have only minor technical and military significance. We must take exception to this. Nuclear-weapon tests at relatively low yields can be of military significance for strategic weapon systems. In addition they can be significant for tactical nuclear-weapon systems. Unfortunately, the restrictions of military security hamper a detailed discussion of this important consideration. However, I wish to note the Annual Report of the United States Atomic Energy Commission, which states that over half of the listed nuclear-weapon tests carried out by the United States are in the low-yield category: that is, with explosion yields of less than 20 KT. Tests at such yields can therefore be significant for the development of strategic and tactical nuclear-weapon systems.

At this point it is appropriate to turn to the aspect of this subject which has dominated our discussion of a CTB — the detection and identification of seismic events. Mr. Ignatieff and Mrs. Myrdal have both expressed an interest in a status report on the use of large seismic arrays for the detection and identification of seismic events. Today I would like to introduce a working paper dealing with current progress and problems in seismic verification. This paper reviews the progress made towards attaining the

research objectives outlined in the United States working paper of June 1971. In today's working paper we describe the current status of the use of large seismic arrays for seismic identification, and the current status of research in other important aspects of the seismic verification problem. The paper also discusses our plans regarding future research directed toward resolving some of the important problems that still remain. Let me describe in layman's language the principle features of this rather technical paper.

Section I reviews our assessment of the detection capabilities of the large seismic arrays and the status of the research in the United States related to very long-period seismometers and their capabilities. In the past year two significant developments have occurred. With regard to short-period arrays, there has been at LASA an important improvement in the techniques for automatically detecting events, reducing the threshold for the automatic detection of events almost to the limit for this array. Second, high-quality data from the full NORSAR array have provided a means of estimating the ultimate threshold for the detection of P waves by that array. The development of automatic detection methods for NORSAR is now under way. With respect to the long-period arrays, sufficient data have now been obtained to estimate their detection thresholds in certain areas. For example, preliminary analysis indicates that LASA and NORSAR can detect Rayleigh waves from Kurile-Kamchka earthquakes of about surface-wave magnitude 3.1 and 3.0 respectively, whereas ALPA can detect Rayleigh waves on events of about surface-wave magnitude 2.6 from this area. During the next year, studies of other earthquake zones are planned. Perhaps more important, high-quality data from all these arrays and from the very long-period experiment stations have become available for documentation of the capabilities and limitations of identification criteria at low magnitude.

Seven stations of the very long-period experiment have been operating during the past year and three others are nearing completion. The very long-period experiment has demonstrated that high-gain instruments can be installed in such a manner that their capabilities are restricted only by seismic noise. It has also demonstrated that careful installation of instruments can significantly lessen the levels of such noise. Results from the very long-period experiment suggest that, rather than using data at periods of only 20 to 40 seconds, data from as broad a band as possible, extending from about 10 to 50 seconds, should be employed. We have seen that the capabilities attained at the prototype very long-period experiment station are attainable at other sites. Although we are only now attaining the technical capability of analysing these data fully, initial analysis supports the concept of the general applicability to earthquakes of the criterion based upon the relationship between the magnitudes of surface and body waves. But we must always keep in mind the existence of occasional anomalous events, which I will discuss next.

Section II of the working paper reviews several important remaining problems in seismic verification. First is the problem of some anomalous earthquakes which, for reasons not clearly understood, generate seismic signals whose character is not distinguishable from explosions by the criterion based on the ratio of surface- to body-wave magnitudes. Although these events occur occasionally at body-wave magnitudes above 5.0, their number increases substantially at lower magnitudes. Our working paper presents a compilation of information on this phenomenon. We can conclude that, for events in the Tibetan-Himalayan region, the criterion based on the ratio between surface- and body-wave magnitudes will not by itself positively identify explosions smaller than about body-wave magnitude 5.0. It should be noted that, although the compilation was done for seismic events in one particular region, such events have been noted on some occasions to occur in some other regions as well. Continuing research may permit us to understand the causative mechanism of such events and place limits on where they may occur in the future; we may also be able to derive other criteria for

the proper classification of such events.

A second important problem is that posed by the interference of long-period signals from two or more discrete seismic events. In some cases the interference of the signals can be so severe that any extraction of useful information of the later-arriving signal is almost impossible. In this case it would not be possible to employ a criterion based on surface waves for identification. In other cases and with certain techniques, the problem becomes more manageable. It is possible in such cases to separate the interfering surface waves of the two seismic signals, thus allowing use of a criterion based on the relationship between the magnitude of surface and body waves. In the working paper a detailed description is given of the use of arrays and of analytical techniques of separating mixed events. In the examples studied, the number of mixed events which could not be effectively separated was reduced to six per cent of the original number. Possible approaches which may enable an even greater improvement are described.

A third problem is that posed by technically-possible evasion techniques. The working paper contains (1) a table summarizing the known techniques available for clandestine testing, (2) the estimated yield limits for such testing in the context of detection capabilities of stations remote from the event, and (3) the constraints on the tester. One of the principal objectives of the United States research programme is to devise measures which can be incorporated into seismic verification schemes in order to detect and thereby deter attempts at implementing techniques for clandestine testing.

Section III discusses some of the approaches to research suggested by the problems discussed in Section II. Of these approaches I would like to single out just one which merits particular attention. This is a co-operative multinational project which has recently been undertaken under the aegis of the Lincoln Laboratory of the Massachusetts Institute of Technology. Participating groups are in Canada, Sweden, Norway, the United Kingdom and the United States.

This study will seek to achieve for a specified time interval a compilation of basic seismic data for nearly all seismic events in the northern hemisphere of body-wave magnitude 4 and greater. The number of potential events being considered is about 5,000.

For the first time we will be in a position to accumulate a single list of events which will form a common and agreed data base for comparative studies. The study will seek to answer a number of scientific and operational questions related to detection and discrimination by using all available seismic data. Without such a comprehensive study it has not been possible to evaluate or predict network performance.

The rest of this section of the working paper discusses future communications systems and data analysis, seismic instrumentation, study of improved seismic networks, and counter-evasion research.

Our seismic research effort has not been restricted to teleseismic means. Research is continuing on the feasibility and the problems of developing tamper-resistant, tamper-indicating low-maintenance, unattended seismic observatories involving minimum intrusiveness. Our study includes an analysis of the vulnerabilities of these observatories to possible evasion by the host country, and an analysis of their possible effectiveness for improving identification. On the basis of our research to date we believe that unattended seismic observatories can be a useful addition to verification capabilities, though they are not the equivalent of on-site inspections.

I feel this would be an appropriate opportunity to comment on one of the issues raised by the representative of Canada, Mr. Ignatieff. He requested further information on the use of techniques based on the relationship between the magnitudes of surface and body waves in order to distinguish earthquakes from explosions. Summarizing, we have concluded from our research that we understand how to identify by teleseismic techniques about 90 per cent of earthquakes down to those having a body-wave magni-

tude of 4.5; we also recognize that there are events which cannot be identified with current discriminants. In principle -- and this is most important -- seismic discrimination by the surface-body-wave magnitude criterion of about 90 per cent of earthquakes down to body-wave magnitude 4.0 appears feasible. However, more work still needs to be done to determine precisely what seismic capabilities will be achievable.

I would like now to turn to another of Mrs. Myrdal's questions. She asked for technical details of, and the observational basis for, the Congressional testimony given last summer by Dr. Carl Walske of the United States Department of Defense. In that testimony he said that in the Soviet Union there would annually be about three unidentified seismic events above body-wave magnitude 4.5, and about 25 unidentified events above body-wave magnitude 4.0. The estimated 25 unidentified events constitute about 10 per cent of the annual number of seismic events in the Soviet Union at body-wave magnitude 4.0 and above as determined by teleseismic means. These will consist primarily of mixed events and anomalous events such as are discussed in our working paper. The paper suggests that unidentifiable mixed events alone account for about six per cent of total detected events. However, this figure is based on a limited set of events. It may well be that the percentage of mixed events will increase when all events of body-wave magnitude 4.0 or greater are investigated. The six per cent figure also does not include anomalous events in the Soviet Union or other factors such as instrument malfunction. Therefore the 10 per cent estimate for teleseismic identification criteria is a fair assessment of the problem. Since it has been estimated that about 250 events occur each year in the Soviet Union at magnitudes of 4.0 and above, this leads to the estimate of 25 unidentified events in this magnitude range cited by Dr. Walske. The importance of these numbers is, of course, that they represent a not insignificant set of seismic events which cannot be unequivocally established as earthquakes and thus potentially could be underground explosions. This set of unidentified events forms a natural background of ambiguous events which could give cause for concern.

Mrs. Myrdal has asked us to define what we mean by adequate verification. We do not believe that, as has been assumed in some theoretical studies, this question can be addressed in simple numerical terms. We consider adequate verification as that which would reduce to an acceptable level the risk that clandestine test programmes of military significance could be conducted under a CTB. In the last analysis, a determination of what constitutes adequate verification can only be made on the basis of a careful assessment of all of the current and potential risks against the current and potential availability of the means for deterring and, if necessary, discovering attempts to conduct testing clandestinely. We must assume that any party seeking to violate a CTB by clandestine testing would take sophisticated precautions in order to minimize the seismic signals or explosion-like characteristics of its tests. Or, to put it another way, such a party would seek to make the explosions look seismically more like earthquakes. Some of these techniques have been discussed in the 1968 SIPRI Report and were also discussed in the last CTB Experts meeting. We have to face the fact that, if only national systems are used, even with advanced seismological techniques, there will still be a substantial number of unidentified or ambiguous natural seismic events. These could provide a background against which some number of clandestine nuclear tests could be hidden. On the basis of seismic means alone there could be no objective way to resolve the true character of such events. On-site inspections, however, could provide just such a method -- and it is in fact the only method that we know which could identify the nuclear character of some seismic events. Thus, on-site inspections can be useful in helping to deter a country from conducting prohibited tests by increasing the chance that any significant violations will be discovered. This, in turn, will increase the probability that clandestine testing will not be judged to be worth the risk. We regard this increase in verification capability as necessary.

An additional aspect of the verification problem is found in the difficult issue of how peaceful nuclear explosions could be accommodated within a CTB while simultaneously ensuring that such explosions will not be used for weapon development. This problem arises from the fact that peaceful nuclear explosive devices are inherently indistinguishable from devices suitable for military purposes.

CCD/PV.583 pp.11-13

USSR/Roshchin

5.9.72

CW

Those representatives who have spoken at meetings of the Committee on the problem of the prohibition of chemical weapons have given considerable attention to questions of control over the cessation of the development, production and stockpiling of such weapons. That is quite understandable, since all States want to have the necessary guarantees of the implementation of the agreement by all the parties to it. This is a quite complicated matter, requiring careful study and discussion. And yet the difficulties of solving this problem are not, we believe, insurmountable. Some degree of trust must of course be shown if a solution is to be found for the problem of the complete prohibition of chemical weapons and the conclusion of an agreement on such an important and complicated question as the prohibition of the development, production and stockpiling of chemical weapons. Without this no such agreement can be reached.

Given the necessary degree of trust, an agreement prohibiting chemical weapons should provide for statements by governments on the destruction of stockpiles of chemical weapons and the cessation of their production; and this in our opinion may prove to be an element of the agreement that would very likely facilitate a solution of the problem of guarantees. This view, we believe, is shared by the delegations of Sweden (CCD/PV.569), Yugoslavia (CCD/PV.569) and others.

As we pointed out in our statement on 11 July, the aim should be a rational combination of national and international forms of control, with provision for the use of international procedures, including application to the Security Council and the conduct by it of investigation. (CCD/PV.567, p.19)

Alongside with the system of international procedures, including application to the Security Council, national control organizations may be established, which, under a special programme agreed upon by international experts, would exercise general control over the observance of the agreement on the prohibition, production and stockpiling of chemical weapons and their destruction. Such organizations may have reasonably wide access to industrial plants, look into things and verify the implementation of the agreement *in situ*, and take part in observing the destruction of stockpiles of chemical weapons and armaments. Such national organizations for controlling the implementation of the agreement on the prohibition of the development, production and stockpiling of chemical weapons might periodically inform other parties to the agreement of the results of their work.

National organizations could make statistical and economic analyses of the production of potential chemical agents. It should be pointed out here that for dual-purpose products the analysis should bear not only on their production but also on their use in peaceful industry, medicine and other branches of the economy. Such an analysis of the balance of the manufacture and use of dual-purpose products could reveal stockpiling and attempts to employ the products for purposes other than their direct peaceful use. Such an analysis would be assisted, too, by the possibility of direct visits by members of the national control organization both to manufacturing enterprises, dual-purpose agents and to enterprises using them. It goes without saying that statistical and economical control of this kind with the help of the national control system should also cover semi-finished products required for the production of CW substances such as ethylene oxide,

which can be used to manufacture mustard gases and phosphorus, which are raw materials for the production of phosphoro-organic poisonous substances. It is not only the manufacture but the use of such products that should be subjected to special analysis.

Support for such a national control system has also been expressed, as we understand it, by the delegation of Yugoslavia, which said:

"Noteworthy would be to establish a national mechanism of control in the form of a group of experts with full authorization to act within the national boundaries" (CCD/PV.569, p.15).

Mr. Polak, the representative of the Netherlands, spoke along the same lines when he said:

"I believe that for the super-toxic chemical agents the method of economic monitoring might be promising" (CCD/PV.572, p.18).

It is necessary to point out, however, that for dual-purpose agents Mr. Polak considers this form of control less promising. If, however, a system of monitoring the balance of production and consumption is adopted, such control is in our opinion quite possible in view of the fact that chemical agents are weapons of mass destruction and can be used only in substantial quantities.

Control over the development of new chemical agents which may potentially be of military significance is also an important question. Control over the development of new chemical substances is very difficult to exercise due to the need to protect intellectual property, and it could be carried out only on a national basis. To reduce the incentive to produce chemical weapons and consequently the volume of work in this field, it would of course be necessary to annul all the existing patents for CW agents and methods of using them for military purposes, as well as to impose a legal ban on the future issue of patents for all such types of chemical compounds and means of using them.

CCD/PV.588

pp.11-12

Japan/Nisibori

1.3.73

CW

Next, let me turn to another vexed question before us, namely, the question of the scope of activities to be prohibited. In the course of the Committee's discussions and at its informal meetings with the participation of experts held last July, it was pointed out that certain forms of on-site inspection are essential for the verification of compliance with the comprehensive prohibition of all activities connected with chemical weapons, including their production, development and stockpiling. Accordingly, my delegation considers that it would be possible for us to realize the comprehensive prohibition of chemical weapons, an obligation which Japan is willing to accept, provided that all countries concerned could accept the inclusion of an adequate form of on-site inspection in the verification procedure. If such on-site inspection could not be accepted, it would be virtually impossible for us to attain the comprehensive prohibition of all activities in one step. In such circumstances, we would have no choice but to seek other possibilities, and we might take an approach such as the implementation, for the time being, of the separate prohibition of specific activities, as has been already suggested by the United Kingdom and Brazil.

My delegation feels that this kind of approach, although it could not solve the whole problem at a single stroke, is the most practical way to reach, step by step, an agreement for the comprehensive prohibition of chemical weapons. In this connexion, my delegation would like to suggest that we might consider, as one such measure for us to implement for the time being, the desirability of, for example, first prohibiting the development and production of chemical weapons. On the other hand, in the present circumstances where the Soviet Union and other socialist States continue to reject the concept of on-site inspection, which is now considered to be the only effective means of

verification, I am afraid that it would be doubtful whether or not the immediate realization of the comprehensive prohibition of all relevant activities, including the stockpiling of chemical weapons, could be a practical measure contributing to the relaxation of international tensions. Accordingly, it might be desirable to leave the comprehensive prohibition of all relevant activities, including stockpiling, until such time as we possess really effective and acceptable measures of verification for ensuring compliance with such a prohibition.

At last year's spring session of the Committee, the Soviet Union and other socialist countries presented a draft convention on the prohibition of chemical weapons (CCD/361) to this Committee.

My delegation is of the view, however, that since the Soviet draft convention, as has already been pointed out by many delegations, does not contain any provisions for proper verification measures, it could not serve as an adequate basis for our deliberations on the question of the prohibition of chemical weapons.

On the other hand, we rate very highly the efforts made by the United States with a view to clarifying various technical questions through the presentation of a considerable number of valuable working papers to the Committee. Regrettably, however, the United States delegation has not as yet presented any concrete proposals in the nature of a draft convention to this Committee.

I hope, therefore, that the United States will, as soon as possible, put forward such a concrete proposal with a view to expediting our deliberations on this matter.

CCD/PV.590

pp.11-12

Sweden/Eckerberg

8.3.73

CW

The concept of amplified verification is based on the certainty that many different efforts would be involved if a country should wish to engage in building a chemical warfare capability or maintain such a capability. Any activity which is either banned or designed to be supervised adds to the opportunities for verification and thereby to the effectiveness of the overall control of the treaty. This concept is supported by simple mathematical reasoning.

In working paper CCD/395 we have further elaborated on our view that the role of the verification system is to create reassurance rather than deterrence. It seems to be unacceptable to many countries that they should run the risk of being falsely accused of violating a treaty. Therefore it is of paramount importance that verification results should be presented in such a way that they do not imply overt accusation. In other words, the system should not be primarily designed to catch a violator red-handed, but should rather monitor normal activities in a country relevant to a chemical warfare potential. This monitoring should in the first place base itself on the regular reporting by national sources. Significant changes in the activities thus under surveillance might indicate a violation of treaty obligations. However, fluctuations in such normal activities can of course occur for quite natural and explainable reasons and therefore a single result indicating a fluctuation should not create undue alarm, but be seen as part of the continuous information procedure. This method of monitoring normal activities would, we think, also involve less risk of discrimination against certain branches of legitimate chemical production.

After studying the results of the monitoring any party to the treaty would be entitled to request comment or clarification, directly or through an appropriate international machinery, about the fluctuations. Grounds for accusation would arise only if satisfactory answers or explanations were not forthcoming or if several activities independently showed a clear trend towards an emerging chemical warfare capability. In such a situation of prima facie well-founded suspicion any party to the treaty would

have to decide for itself whether to withdraw from the treaty. A party deciding to withdraw would face the risk of misjudging the situation and would have to take the corresponding responsibility in the face of public opinion. This responsibility would evidently be shared with the non-co-operating party.

There seems to be general agreement that certain measures of verification are necessary in a convention on chemical weapons to provide reasonable assurance, in addition to information that may be available otherwise. It is perhaps not primarily a deterring effect which is needed; it might be more important that other parties to a production ban feel reasonably assured that they will get time to prepare themselves, politically and militarily, against a possible threat.

The verification model now described could function independently of other possible control mechanisms, such as a complaints procedure within the United Nations or verification by invitation. Such mechanisms would thus not be replaced but complemented by the system outlined here.

To sum up, it follows from what I have said that we view verification as continuing dialogue rather than ad hoc challenges. What should be brought about is a forum in which to discuss, develop and manage methods which can allay fears and reduce concerns and thus prevent suspicion from growing out of lack of information and communication. I hope that these thoughts will initiate fruitful discussion, and in the end lead to the inclusion in a final treaty of those parts of our concepts that have stood the test. The model we are advocating seems to be particularly useful in achieving the comprehensive ban on all chemical weapons and activities, which is the goal of the Swedish delegation.

CCD/PV.593 pp.8-12

USSR/Roshchin

20.3.73

CW

On the problem of control of the prohibition of chemical weapons, as we see it, one can draw the conclusion that there is now a general understanding that this problem should be solved not on the basis of any one method but through a reasonable combination of national and international measures of control. Thus, speaking in the Committee on 20 February, the representative of Mexico, Mr. Garcia Robles, had this to say: "With respect to the basic problem of control ... we do not see why ... it would not be enough to have a similar system [similar to the system of control provided for in the Convention on the Prohibition of Bacteriological and Toxin Weapons], with certain additions and improvements, based ... 'on a combination of suitable national and international measures complementing and supplementing each other reciprocally'" (CCD/PV.585, p.28).

Swedish working paper CCD/395 also refers to the need for a combination of different control methods. It says among other things that the efficiency of the verification system "is increased by the use of several verification methods". In explaining this principle, the representative of Sweden, Mr. Eckerberg, observed that "the system should not be primarily designed to catch a violator red-handed, but should rather monitor normal activities in a country relevant to a chemical warfare potential. This monitoring should in the first place base itself on the regular reporting by national sources" (CCD/PV.590, p.11).

It seems to us that such an approach to the question of control of the prohibition of chemical weapons is well-founded, providing for sufficiently reliable verification of the prohibition of chemical weapons. It is this approach which is offered in the draft convention of the socialist countries, which envisages the possibility of using a number of national means of verification in combination with some international procedures which, however, should not serve as means of unjustified interference in the internal affairs of States.

We have repeatedly explained the attitude of the Soviet side to on-site inspections. Such a type of control, as we have already pointed out, is by no means a prerequisite for ensuring the observance by States of the provisions of an agreement on the prohibition of chemical weapons. The establishment of this type of control would create quite obvious difficulties of a political and technical nature. Mandatory inspections could be used as a pretext for unwarranted violation of the sovereignty of States and in some cases for gathering information that has nothing to do with the aims and purposes of an agreement on the prohibition of chemical weapons. Besides, the close link between the production of chemical substances military and for peaceful purposes makes international inspections impractical. Visits of experts of other countries to chemical enterprises would violate the protection of industrial property. Such inspections are objectionable to many countries as well as to representatives of business circles. For example, a report of the United States Carnegie Endowment on chemical and bacteriological weapons, prepared and published in 1971, states: "Some countries may be reluctant to permit any inspection, and American and other private industry may also have qualms" (The Control of Chemical and Biological Weapons, Carnegie Endowment for International Peace, New York, 1971, p.115).

In the light of the above, it is somewhat surprising that the representative of Japan, Mr. Nisibori, has put forward in the Committee as a condition for the comprehensive prohibition of chemical weapons the consent of all countries concerned to "the inclusion of an adequate form of on-site inspection in the verification procedure. If such on-site inspection could not be accepted, it would be virtually impossible for us to attain the comprehensive prohibition of all activities in one step" (CCD/PV.588, p.11). Ambassador Nisibori further said that the concept of on-site inspection "is now considered to be the only effective means of verification" (*Ibid*). And if these means of verification cannot be put into practice, he added, "it might be desirable to leave the comprehensive prohibition of all relevant activities" (CCD/PV.588, p.12).

Such a condition for the prohibition of chemical weapons, put forward, incidentally, in rather strong terms, does not promote the solution of the task which is considered of high priority in the work of the Committee and which should be solved as quickly as possible. Such treatment of the question of control introduces additional difficulties in the solution of the problem of the prohibition of chemical weapons. In that connexion it is worth referring to the view stated by the representative of Iran in the First Committee of the General Assembly on 1 November 1972, when he said: "We are all aware that there are no technical panaceas to solve, once and for all, the problem of verification. But it would be most regrettable if a chemical convention should be delayed by being led up the dead-end road of the perennial debate on on-site inspection" (A/C.I/PV.1881, p.13).

The task now is not to complicate the situation as regards the prohibition of chemical weapons but to find mutually acceptable solutions to the difficulties that have arisen. The Soviet side realizes the complications involved in a solution of the many political and technical questions related to the prohibition of these weapons. Major complications have also arisen on the path to working out a system of monitoring and control of such a prohibition. We have already mentioned that the Soviet expert who attended the informal meetings of this Committee put forward some considerations concerning possible ways of implementing the control provisions contained in the draft convention of the socialist countries. A number of working papers submitted in the Committee over the last few years have also usefully elucidated this question. They contain considerations of a technical nature which might be used to solve the problem of monitoring the observance of an agreement on the prohibition of chemical weapons. Thus, a number of working papers have analysed the possibilities of using the method of evaluating and analysing statistical data on the production and consumption of raw

materials and semi-products as a way of checking the observance of an international agreement on the prohibition of chemical weapons. We have in mind the working papers of the United States (CCD/311 and 368), Italy (CCD/335), Japan (CCD/301 and 344), Finland (CCD/381) and Sweden (CCD/322 and 384). These working papers admit in one way or another the possibility of using this method of control. Although they may appraise its possibilities differently, they recognize that the method of statistical monitoring can undoubtedly be used as one of the forms of controlling the observance of an agreement on the prohibition of chemical weapons.

In the course of the discussion of possible methods of technical control of the observance of an agreement on the prohibition of chemical weapons several delegations have pointed to the technical feasibility of using remote control methods. On this subject working papers have been submitted for the consideration of the Committee by the United Kingdom (CCD/308 and 371) and Canada (CCD/334). They deal with the use, on a national basis, of various kinds of atmospheric and effluent sensors, remote sampling techniques and possibly satellites.

We realize -- and the above working papers make pertinent reservations -- that the use of some of these methods of control and verification separately does not provide a full guarantee that violations of an agreement on the prohibition of chemical weapons will be detected. However, in the general context of a whole system of guarantees they may prove to be important elements. The use of these methods does not involve the difficulties of a political and practical nature which arise in the consideration of the problem of on-site inspections.

Several working papers deal with the question of domestic legislation with respect to the production, storage and use of chemical substances which has either been enacted or proposed in many countries. This question is discussed, in particular in the working papers submitted by the United States (CCD/369), Yugoslavia (CCD/302), Sweden (CCD/384) and Finland (CCD/381). Among proposed domestic legislative measures, we consider of great interest, such approaches as the enactment of laws prohibiting research for weapons purposes and the development, production or stockpiling of agents for chemical weapons, the introduction of strict government control of imports and exports of certain kinds of chemical products, the introduction of special regulations and procedures for the import, manufacture, sale, destruction and conversion for peaceful uses of dangerous chemical agents, etc. A notable contribution is the working paper submitted by Finland regarding national means of control of chemical weapons. Interesting and useful ideas are contained in the working paper submitted by Sweden telling how the domestic legislation of Sweden on the protection of the human environment and public health can facilitate control of the development, production and stockpiling of chemical agents that might be used for military purposes.

Thus, as a result of a thorough and comprehensive consideration of the question of the prohibition of chemical weapons there is a good political and technical basis for the elaboration of an appropriate international agreement.

CCD/PV.594 pp.19-20

Nigeria/Sokoya

22.3.73 CTB

Verification still remains the crux of our problem on a comprehensive nuclear test ban issue. The Nigerian delegation does not consider this an absolutely insurmountable problem. We are not, in any way, oblivious of the rigid positions respectively assumed by the two super-Powers on the acceptability or otherwise of on-site inspection. Besides, we have listened to various suggestions from member delegations of this Committee in an attempt to find a mutually acceptable solution to the present impasse and yet the problem remains apparently unresolved. My delegation, like other like-minded delega-

tions, cannot remain indifferent in our constant endeavour to urge the two super-Powers to take the necessary political decision that can help this Committee tide over the present stalemate. We shall keep on hammering what we earnestly believe in, and that is: "Where there is a will, there is a way".

In so far as suggested verification techniques are concerned, we feel convinced that sufficient progress has been made in seismic verification methods and much more could still be achieved through joint efforts. In this connexion, the role of the Governments of Canada, Japan and Sweden calls for special mention regarding the praiseworthy joint efforts that are being made by them in this field. It is our fervent hope that the now esoteric "club" will be adequately enlarged so as to include all those countries which have the relevant technological facilities, and that the results of its work will be utilized to the best advantage of humanity.

Still on this recurring problem of verification, my delegation is of the opinion that an underground test ban agreement could usefully borrow from the experience of the happy results of SALT I. In this connexion, I commend to all delegations for a careful and thorough study an article captioned "After SALT, A Total Ban?" published in The Washington Post of Sunday, 4 February 1973. This thought-provoking article was written by none other than Mr. Herbert Scoville Jr., a former Assistant Director of the United States Arms Control and Disarmament Agency and Deputy Director of the Central Intelligence Agency. In particular, Mr. Scoville wrote, and here I quote:

"The benefits of SALT I, however, are not limited to the weapons development part of the problem alone; the ABM treaty also creates mechanism by which the verification difficulties, for years the ostensible stumbling block to a test ban, can also be solved."

Our Committee may borrow a leaf from the verification techniques adopted in the ABM treaty to supplement seismic techniques.

CCD/PV.594

pp.29-32

Japan/Nisibori

22.3.73

CW

Next, I would like to elucidate my delegation's view on the interim measures relating to the question of how to ensure effective verification of the prohibition of chemical weapons, as suggested in my statements in the General Assembly of the United Nations last year and in the meeting of this Committee on 1 March, to the effect that the development and production of chemical weapons might be prohibited first.

In connexion with the question of whether or not some extent of on-site inspection is indispensable for ensuring the effective verification of the prohibition of chemical weapons, the representative of the Soviet Union, Ambassador Roshchin said in his statement at the previous meeting of this Committee:

"Such a type of control, as we have already pointed out, is by no means a prerequisite for ensuring the observance by States of the provisions of an agreement on the prohibition of chemical weapons. The establishment of this type of control would create quite obvious difficulties of a political and technical nature. Mandatory inspections could be used as a pretext for unwarranted violation of the sovereignty of States and in some cases for gathering information that has nothing to do with the aims and purposes of an agreement on the prohibition of chemical weapons. Besides, the close link between the production of chemical substances for military and for peaceful purposes makes international inspections practically impossible. Visits of experts of other countries to chemical enterprises would violate the protection of industrial property. Such inspections are objectionable to many countries as well as of representatives of business

circles." (CCD/PV.593)

With regard to this question, I should like to ask the members of this Committee to recall the statement I made at the meeting of this Committee on 25 April 1972:

"If one rejects ab initio the concept of verification in the field of chemical weapons which involves territorial intrusion into another State, how can one explain the system of safeguards under the Non-proliferation Treaty on nuclear weapons, which does involve what might be called 'territorial intrusion'?"

Here we are guided by General Assembly resolution 2662 (XXV), which, after pointing out the importance of the issue of verification, rightly states that 'verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure the effective implementation of the prohibition'.

If it is established that national measures involving no territorial intrusion into another State are not enough for the ban on certain kinds of chemical weapons or activities, would it not be only logical that we should complement and supplement such national measures with international measures even if they involve such territorial intrusion?

If indeed there is a political decision to prohibit the sort of chemical weapons or activities I have referred to above, it is only natural to expect that there should also be a political decision to accept such international measures." (CCD/PV.559, pp.13-14)

Furthermore, in connexion with this question, I should like to draw the attention of the members of this Committee to the working paper submitted by the United States (CCD/293, p.4), which says "Our research indicates that the problem of identification of nerve-agent production facilities cannot be solved by off-site observation." At the same time, many other representatives of this Committee pointed out that a certain degree of on-site inspection is imperative for a comprehensive ban of all activities including the development, production, and stockpiling of chemical weapons. Therefore, if all countries, including the Soviet Union, accept, to some extent, on-site inspection, Japan is ready to accept a comprehensive ban of chemical weapons. However, if the Soviet Union continues not to accept any on-site inspection, it will be very difficult for us to ensure verification measures for the realization of a comprehensive ban of all activities including development, production, and stockpiling. Accordingly, my delegation considers that it is desirable to prohibit development and production as a first step for the time being and then to realize the prohibition of all activities including stockpiling when we can assure effective measures of verification for this purpose. With regard to this question, the United States working paper (CCD/360, p.8) states, "Thus one possible way some States might be satisfied with a somewhat lower of initial assurance would be if the disarmament process took place in stages, that is, in the example under discussion, if production of certain classes of agents or weapons were prohibited initially while destruction of stockpiles were to take place in a subsequent stage." This seems to suggest that it may be possible for all States to accept the prohibition of development and production as a first step without a high level of verification measures, and my delegation believes that this might be a compromise solution acceptable at the present stage.

Finally, I should like to give my delegation's views on how to observe the faithful implementation of the obligations assumed under a convention and on what action should be taken if any violation of this convention occurs, with a view to prohibiting chemical weapons effectively.

First of all, it might be useful to establish an international body to observe and

control the implementation of the obligations of the convention. As to this question, we might recall that in the spring session of the Conference of the Committee on Disarmament, last year, the representative of the Netherlands, Ambassador Polak, taking his examples from international control bodies provided for in several arms-control treaties of the past, such as the Treaty of Tlatelolco, and the Non-Proliferation Treaty, stated:

"In considering the possible creation of an international body to support a C-weapons convention, one might look at these examples as well as at the suggestions in the American paper.

One could even go a step further and consider whether such a body could be devised as a nucleus of an international disarmament organization which, in due course, would take over responsibilities also in other fields." (CCD/PV.560, p.10).

My delegation also considers that it would be necessary to establish an international control body in order to obtain in an objective way proofs of violations of the convention.

Secondly, as a first step towards such international control, it would be desirable to establish a system of reporting statistics of production, exportation, importation, and consumption of certain types of chemical agents.

With regard to the scope of the chemical agents to be reported, I would like to suggest that this should cover the statistics of super-toxic organo-phosphorus agents and their intermediates which are above a certain level of toxicity as I mentioned previously. If we want to limit the scope further, it may be suggested that we exclude those agents which are clearly not adequate for weapons purposes.

Thirdly, as to the question of the procedure for complaints, it should be arranged that if a State observes and can provide proof of any violation of the convention, the State could request the Secretary-General to investigate the case and to report the results of his investigation to the Security Council.

Furthermore, a State Party that suspects another State Party of not fulfilling its obligations towards the convention should have the right to consult with the State Party that is responsible for the activities giving rise to the doubt in order to remove its suspicions. If, after consultation, any doubts still remain, the State Party having the doubts should have the right to require the Secretary-General to investigate the matter and to report his findings to the Security Council. For that purpose, the Security Council should give authority for such investigation to the Secretary-General by a resolution.

CCD/PV.599

pp.8-11

Japan/Nisibori

10.4.73

CTB

On the basis of the views stated above, I request that the informal meetings of experts be sponsored by this Committee.

First, I propose a technical study on three points which I shall now enumerate:

1. Confirmation of the existence of all means of verification at present available for realization of a comprehensive test ban, and technical study and assessment of capabilities and limitations of each means in terms of detection and identification.
2. Technical re-examination of the adequacy of various proposals and suggestions put forward for the realization of a comprehensive test ban, on the basis of a variety of means assessed under point 1.
3. Study of other related technical matters which should be settled at the time of realization of a comprehensive test ban.

The object of point 1 is to try to confirm the existence of all means of verification at present available for detection and identification of nuclear tests, and to make a

study from a technical viewpoint of the capabilities and limitations of each means or a variety of combinations of these means. I would like to draw the attention of members to the fact that point 1 is intended to cover the study not only of seismological but of all means of verification.

As to the seismological means of verification, while it had already been suggested in 1963 when the Partial Test Ban Treaty was concluded that nuclear tests the magnitudes of which are over 4.75 could be detected and identified, it would now be necessary to assess in detail to what extent nuclear explosion tests can at present be detected and identified through these means. It should be particularly taken into consideration that in 1963 detailed and concrete studies of a network of seismic stations and the means to be used in the process of detection and identification had not been made in the Disarmament Committee. I also note that, since 1969, the year the present Committee started, many working papers on the possibility of improving the means of verification, especially seismological ones, have been submitted from such countries as the United Kingdom (CCD/296), Canada (CCD/327), Sweden (CCD/329) and the United States (CCD/388). While these working papers contain valuable studies and suggestions for improving the technique of verification through seismological means, this Committee has not to my regret made any technical assessment and examination of these studies and suggestions in a detailed, over-all, and concrete manner. I therefore believe that a detailed technical study by experts in the proposed informal meetings of every measure related to the improvement of the seismological means of verification on the basis of the above-mentioned working papers could provide key information for precisely judging the capabilities and limitations of the seismological means of detection and identification of underground nuclear explosion tests.

So that full advantage can be taken of the meetings, we would also like both the United States and the Soviet Union to submit thorough technical information on the uses of means of detection and identification of underground nuclear explosions other than seismological ones.

Thus, it is one of the important objectives of the proposed informal meetings of experts to confirm the existence of means of verification other than seismological ones, and if there are any, to try to measure concretely their capabilities and limitations in detecting and identifying underground nuclear explosions.

Point 2 is concerned with re-examining the adequacy of each of the various measures for a nuclear test ban proposed or suggested up to date by various countries on the basis of the various means of verification examined under point 1. In the process of this re-examination, attention should properly be given to such questions as:

- (a) to what extent detection and identification of the underground nuclear explosions are possible through the measure, suggested by the Soviet Union, of using national means of verification supplemented by the international exchange of seismic data;
- (b) a technical view of the significance of the measure, proposed by the United States, which consists of conducting annually on-site inspections a specified number of times, and also of the measure, proposed by Sweden, of conducting on-site inspection by invitation;
- (c) whether on-site inspection continues to be a technically indispensable factor or not in implementing a comprehensive nuclear test ban.

Furthermore, a thorough technical study should be made, from the viewpoint of technical effectiveness, of the following matters:

- (a) the suggestion by the United Kingdom that a specified number of times a year should be allocated for nuclear tests and that the number of times should gradually be reduced;
- (b) the proposal by Canada that the frequency or size of nuclear tests should

gradually be reduced, or that the formula of a moratorium on nuclear tests should be adopted by either the United States or the Soviet Union, or by both;

(c) the suggestion that nuclear explosions above a specified threshold should be banned, and the proposal by Egypt that the formula of a moratorium on those explosions below a specified threshold should be adopted;

(d) the proposal by Japan that the relatively large nuclear tests which can at present be detected and identified through seismological means should be banned first, and that other, minor, tests should be banned subsequently, when the means of verification for their detection and identification are obtained.

Our delegation is convinced that the above-mentioned measures for realizing a comprehensive nuclear test ban have been proposed on a scientific basis, but they nevertheless conflict with or overlap one another. Our delegation therefore considers that, at the proposed informal meetings, these proposals and suggestions made by the countries concerned should be studied by experts exclusively from a scientific point of view in connexion with concrete means of verification, and that their adequacy and realizability should subsequently be re-examined, including the possibility of rearranging and merging them.

The object of point 3 is to examine various technical questions which should be solved prior to putting into force the means of verification or measures for a test ban evaluated as the most adequate and realizable among those examined under points 1 and 2. For instance, if the seismological means is to be used, it goes without saying that the subjects of urgent study should include the size of network of seismic stations which is technically needed, concrete and technical questions regarding locations of stations to be installed and instruments for observation to be used, etc., how and through which organ the data obtained through observation can be processed, and how information can be exchanged among seismic stations.

Under this point 3, the question of how to deal with peaceful explosions at the time of realizing a comprehensive nuclear test ban may also be discussed from an exclusively technical point of view.

How to deal with peaceful nuclear explosions at the time of realizing a comprehensive nuclear weapons test ban is an extremely important question, as is well known and as was rightly pointed out in the fourth paragraph of the preamble to resolution L adopted at the Conference of Non-Nuclear-Weapon States, which states:

"Convinced, therefore, of the urgent need, on the one hand, to obtain a comprehensive test ban treaty, prohibiting in principle all nuclear explosions, on the other hand, to create, in a separate international instrument, a régime, aiming at regulating and controlling, internationally, all explosions for peaceful purposes as exceptions from the general prohibition under the comprehensive test ban," (A/7277, p.16).

The importance of this question is also demonstrated by the fact that strong concern over the matter was expressed by Mexico, Italy and many other countries at the Conference of Non-Nuclear-Weapon States, and that Pakistan and Sweden have submitted valuable working papers on the subject to this Committee.

CCD/PV.601

pp.13-20

Sweden/Myrdal

17.4.73

IDO

In order to assure any permanency for what has resulted and what we hope will result from our labours, we must sooner or later -- and preferably sooner -- begin to consider the organizational framework for the control aspects of disarmament. In other words, I want to resuscitate the old plan for an IDO -- International Disarmament Organization -- although trying at the same time to rejuvenate it, in consideration of

the many developments with new exigencies that have occurred since we discussed such a control organization in the framework of general and complete disarmament.

Thus, my remarks of today are by way of an invitation to all delegations to start reviewing and reappraising ideas concerning the kind of organizational structure which will be necessary for verification of the implementation of disarmament measures and generally for keeping a constant watch over progress in the direction of disarmament.

Under a first heading an attempt should be made to survey existing proposals and plans for disarmament control arrangements.

(Perhaps I should add as a semantic footnote that the term "control" is here used as a variant of the term "verification", i.e. as is, I believe, the meaning of "controle" in French. The confusing term "arms control" should be avoided, as there exist synonyms which are better -- because they are unambiguous -- like "arms limitation" or, best, "arms regulation"; see for instance Articles 11 and 26 of the United Nations Charter.)

Some international control arrangements are already parts of disarmament agreements, others are presented in considerable detail in authoritative statements, submitted to us, others again launched more as passing ideas in the margin of our deliberations on one specific disarmament measure or another. The general picture has become a highly checkered one, suffering from the fact that no systematic approach has hitherto been tried.

The beginning must obviously be made with the perspicaciously elaborated drafts submitted in 1962 by the Soviet Union ("Draft treaty on general and complete disarmament under strict international control" (ENDC/2)) and by the United States ("Outline of basic provisions of a treaty on general and complete disarmament in a peaceful world" (ENDC/30)). In both drafts considerable weight was given to "the International Disarmament Organization", IDO. It even had remarkably similar features in both versions. Thus, it was to be "within the framework of the United Nations". It would consist of a General Conference and, as the operating agency, a Council. The duties would, according to the USSR draft, be to "provide practical guidance for the measures of control on the implementation of general and complete disarmament" and "periodically to inform ... of the progress achieved in the implementation of general and complete disarmament and promptly notify it of any infringements by the States ... of their disarmament obligations" -- or, in the words of the United States draft, to "verify disarmament measures", according to a more detailed checklist, including "verification of the destruction of armaments and, where appropriate, verification of the conversion of armaments to peaceful uses". I have on purpose omitted some references to divergencies between the two drafts, particularly the direct subordination to the Security Council as proposed by the USSR. The main thing to bring into focus now is the area where the two drafts were in accordance in relation to the IDO. To give a comprehensive picture, I want to quote the publication The United Nations and Disarmament 1945-1970 (p.94):

"Both sides agreed on the need to verify what was being reduced, destroyed or converted to peaceful uses, as well as to control the cessation of production of armaments. In addition, the United States stressed the need to verify remaining quantities of armaments and forces and to ensure that undisclosed, clandestine forces, weapons or production facilities did not exist. To meet these requirements, the United States suggested a system of progressive zonal inspection...".

There is one idea, in fact basic to the two drafts, which can be considered as of less significance for the future, as we are now facing something very different from an overall treaty on general and complete disarmament. It is the idea that the main bodies of the IDO, the Conference and the Council, should consist of "the Parties to the Treaty". Our problem is that we now have several, and expect to get even more treaties with variegated clusters of adherents. The task before us has to be redefined: how to

establish a control organization covering multilateral disarmament treaties in the plural. I will revert to a tentative solution in a few minutes.

What happens in the void of any systematic approach, leaving it to each new agreement to find an ad hoc solution for organizing a control system, is set out in the Swedish working paper CCD/287 (1970). It gives a very motley picture, indeed. We intend to issue a revised version of the table in that paper, which even in its somewhat outdated form gives much food for thought.

There is, however, one feature, common to some of the newer agreements, which would henceforth seem worthwhile to make into a constituent element, namely, the reference to a review conference after some years. This is now incorporated in the Non-Proliferation Treaty, the Sea-Bed Treaty and the Bacteriological (Biological) Weapons Convention. As such intermittent conferences would obviously assemble exactly those countries which are Parties to a specific treaty, it might be considered as covering the need for a basic "conference" at the bottom of the control structure. This would free us to look at another pattern for the more continuous control functions. I believe we have arrived at a point where it is pertinent to ask whether we should not assemble those functions in one joint organ, construed so as to keep a more generalized surveillance of disarmament implementation.

Let us, before proceeding, take a look also at the models used in some other control arrangements decided upon outside the Committee on Disarmament.

To promote the objectives and implementation of the SALT I agreements a standing consultative commission is established, with interesting and promising tasks such as to "provide on a voluntary basis such information as either party considers necessary to assure confidence in compliance with the obligations assumed" and to "consider questions involving unintended interference with national technical means of verification". While we are looking forward to being briefed on the results of these activities, my purpose today is to call to our attention the parallelism between these bilateral control arrangements and our need for international ones.

Similarly, the regional Armaments Control Agency of the Western European Union has been verifying parts of a regional arms limitation agreement since 1956, i.e. of the non-production of chemical weapons in the Federal Republic of Germany. The Agency reports annually to the Council of WEU, which issues directives and settles disputes when necessary. The preparatory work on a future international body for disarmament should benefit from the verification experience accumulated by the Agency.

Notions, and even incentives to establish a control system can be obtained from the co-operation between the World Health Organization, the International Narcotics Control Board, the United Nations Division of Narcotic Drugs and national Governments for the control of the narcotics trade.

These are some examples where economic considerations, technical development, increased confidence between States, positive political will and the interests of mankind have combined successfully to bring about solutions to control problems similar to those which we in this Committee have in the past tried to solve in ad hoc ways, but which we have now to tackle more systematically, starting with the comprehensive test ban and the ban on procurement of chemical weapons.

Particularly during our discussions on banning chemical arms, there seems to be dawning a universal understanding that an international organ of some kind is needed to provide standard verification procedures or to verify the implementation of a treaty. Without entering into details on the problems of organization and tasks, various delegations have brought forward a plethora of suggestions, utilizing concepts such as "international meeting of experts", "standing consultative body", "international body", "international control organ", "international panel of experts", "international machinery" and "technical and scientific organ".

Before turning to tentative proposals for a systematic solution to the problem I discuss today, we ought under a second heading to consider the pitfalls we risk tumbling into when we try to resolve an ad hoc task without taking into account the perspective of the whole. It is, of course, but natural that in the making of disarmament and arms regulation treaties there will appear a number of difficulties, even conflicts of interest. But beyond that, there may be fallacies and sins of omission which we could have avoided. The most conspicuous fallacy is, I believe, to assign investigatory as well as judiciary tasks, in relation to alleged violations, to existing organizations -- as exemplified in the Bacteriological (Biological) Weapons Convention, where the Security Council has also got the investigatory powers. The need for an independent, objective, fact-finding study as a first step in an international verification process has been overlooked, and the whole matter prematurely lodged with the United Nations Security Council -- without protecting the investigation from political vetoes. This built-in discrimination has led Sweden, which has solemnly abjured all plans for procuring biological as well as chemical weapons, to take the position that we can not, at present, adhere to the Biological Weapons Convention; which by the way has not yet entered into force. How particularly inept this fallacious construction is, is just now being demonstrated in that the biological weapons treaty does not seem able to climb over the veto wall even in order to be accepted by the Security Council.

One could list a whole catalogue of fallacies which we risk falling into when negotiating disarmament treaties without a clear view of all the requirements and opportunities of a coherent control system.

The time would then come to contemplate how a truly practical and equitable control structure for the disarmament field should be designed. I believe we should first agree that there already exist satisfactory solutions at the highest and at the lowest echelons of such a structure. The basic one must be the corps of parties concerned in each separate treaty, which is the only one that could be vested with power to legislate, i.e. to amend a treaty. These groups of adherents would preferably be organized for meeting in periodic "review conferences". At the other extreme, the ultimate resort for lodging complaints against alleged violations of a treaty has come to be recognized to be the Security Council.

The remainder of needed international control arrangements for disarmament I believe we could discuss in the form of a two-tier pattern.

The one first needed would be a new body -- a kind of IDO -- with an intermediary position, serving the Parties to various treaties, providing a two-way channel for both receiving and distributing information, pertinent to the implementation of disarmament measures. It should, I presume, be a clearing-house for knowledge on matters relating to such implementation. It should also provide guidelines for such verification work which is to be carried out by national means. In this context, I would recall particularly what Professor Melnikov of the USSR said in an informal meeting last summer about the need to establish an international programme, including necessary rules and structures, a suggestion seconded by several speakers, including the representative of the Soviet Union, in subsequent records of this Committee. One could use an agency already for calling such meetings, as we can not expect that they arise spontaneously. The agency in question could serve as an intermediary -- in relaying all useful information, derived from such specialized groups as well as from individual parties in relation to verification enquiries, submitting it to all treaty parties concerned in each case, and to the Security Council, if a case is brought in for its verdict.

Our prospective IDO could in this way assure the fairness and objectivity of verification procedures, but need not -- and in most cases probably should not -- itself undertake investigations. Rather it should function as a kind of shunting-yard by assigning specific investigation tasks to the specialized agencies, indicated as required in each

separate case.

The function of these various specialized bodies would constitute the second level in the two-tier pattern. The particular agency to which such tasks should be assigned is sometimes indicated in a treaty, e.g. the International Atomic Energy Agency in reference to the Non-Proliferation Treaty and the Tlatelolco Treaty. Even when none is explicitly designated, the competent addressee is so obviously recognizable as the appropriate one, as for instance the World Health Organization, if the implementation of the Biological Weapons Convention should call for some specialized study. In many cases it might be preferable not to single out a particular agency in the treaty text but leave it to our co-ordinating and co-operative organ to find the best avenues for competent advice.

A lot of creative thinking has to be devoted to how much an IDO could be incorporated in the international machinery and what its functions and competence would be. I would certainly not dare to make any proposals with a claim to finality. The whole purpose of my "thinking aloud" today is to inveigle other delegations to bring forward improvements to the suggestions hitherto proffered as to such an organ for disarmament control, centrally placed but functioning in a decentralized way.

I might, however, venture some remarks on a few points, where I see some uncertainties. One question, seemingly too mundane to be mentioned, concerns the nomenclature. The organ should certainly be placed "within the framework of the United Nations", although so composed that it is not politically loaded with any veto rights. But then its name, instead of IDO, might become UNDO, a name which I submit must be rejected as too prone to invite jocular comments. Also, as the letter "D" usually and with greater right stands for development rather than disarmament, it might be better to play around for some title like UNDISCO -- if it be a council, commission or committee, ending on -O if it be an organization or on -A if it be an agency.

This brings us to the more substantive question as to the proper place within the United Nations structure of such a body for control of disarmament implementation, or, more generalized, for surveillance of the actual progress of disarmament. Could its regular annual reports -- aside from any ad hoc ones -- go straight to the General Assembly, for consideration by its First (Political) Committee, or would it have to pass some kind of Council, as all kinds of economic and social reports are channelled through the Economic and Social Council? Might it be deemed appropriate that the United Nations Disarmament Commission be intervening as a receiving organ, it being automatically favoured by the presence of all the nuclear-weapon States?

A third and final question-mark is raised by a possible conflict with a different organizational pattern for which I myself have been an ardent spokesman -- namely, to create double-purpose régimes for pursuing both disarmament and development goals. A case-in-point is the international régime which the Sea-Bed Committee has proposed for managing the exploitation of the sea-bed, and to which I have thought we might give power-of-attorney to watch also that no military installations occur contrary to the intentions of agreed treaties.

It might well be that these are unnecessary worries, and that double-purpose régimes might function at the same level as the specialized agencies, to which "our" council should refer all questions in their fields of competence. The IAEA's control functions for the Non-Proliferation Treaty have, as a matter of fact, been added to its original and overriding task of promoting the peaceful use of nuclear energy. The IAEA safeguard system is an illuminating example of unified control replacing the many bilateral verification arrangements agreed before the Non-Proliferation Treaty.

Before I conclude, the question of appropriate timing must be raised. I venture to submit that the right time is fast approaching for establishing an "interim IDO" -- an appellation that might be used until we find a fitting name. A first and most pressing

reason is that we must have recourse to a clear-cut, functional structure for controlling the comprehensive chemical weapons treaty on which this Committee is now at work. No loose reference to the Security Council, or to the Secretary-General or just to "appropriate international procedures within the framework of the United Nations" will do.

But a second reason, perhaps less urgent in terms of time but more definitely instituted in actual treaties, is the need to organize the periodic review conferences, foreseen in some of the treaties in this field. The earliest one, according to the Non-Proliferation Treaty, should take place early in 1975; another one for the Sea-Bed Treaty in 1977. Who is to organize them? Conferences certainly do not organize themselves out of the blue. The answer is, I reiterate, that we should have some kind of an IDO to take such functions in hand.

Here I should admit that this is not only a reiteration within today's statement. Already a year ago the idea was broached in statements by the Dutch, Swedish and Yugoslav delegations. I made a statement on 18 July to that effect, but I prefer to quote the distinguished representative of Yugoslavia, Mr. Cvorovic, who stated on the same day that:

"In the judgement of my delegation, in dealing with the system of control for chemical weapons it is of particular importance to have in mind that this system could be a very important element of a future comprehensive international system of disarmament control. Accordingly, when we are speaking about the question of institutionalization, we find very close to our way of thinking the idea put forward by Mr. Rosenberg Polak, who in his statement on 27 April said: 'One could even go a step further and consider whether such body could be devised as the nucleus of an international disarmament organization which, in due course, would take over responsibilities also in other fields.'" (CCD/PV.569, p.16).

Today, I am ready to suggest rather firmly that a control organ, to begin with, be given a temporary structure. A more final one should be expected to emanate from the World Disarmament Conference, together with other decisions about reorganizing work in the disarmament field.

CCD/PV.608 pp.9-12

Netherlands/Kooijmans

28.6.73 CTB,C-O

If the Soviet Union really means that all nuclear Powers must adhere to a comprehensive test ban, it can hardly be denied that the Soviet Union would bear responsibility for the failure of achieving such a treaty. For the second time during the extremely long negotiations on the test ban issue, the Soviet Union would have hardened its position instead of making concessions. In 1964 the Soviet Union withdrew its offer for two to three on-site inspections on its territory. It now seems to ask for the adherence of all nuclear-weapon Powers to a comprehensive test ban treaty. We sincerely hope that we are mistaken.

The United States has been very active in the development and deployment of seismological instruments. Huge arrays have been built and special equipment like long-period instruments has been developed. It is a fair supposition that, without the great efforts of the United States, the present identification capabilities would not exist. Of course, other countries have made very substantial contributions in the field of seismology, notably the United Kingdom, Canada, Sweden and Japan. The United States has also been very generous in giving information on technical issues.

In this respect I note with regret that the Soviet Union never made any contribution in this Committee to the solution of seismological and other identification problems in the context of an underground test ban. It was interesting to read reports that United

States seismological equipment will be placed in the Pamir mountains in the southern part of the Soviet Union, and Soviet equipment in California, under an agreement between the United States and the Soviet Union to study earthquake prediction methods. One wonders why such intensive seismological co-operation between the super-Powers cannot be extended to the fields of arms control.

Especially in the last, say, five years, it has become clear to practically all of us here that fundamental improvements in seismological identification techniques have been made. Unlike in the early 1960s, positive techniques are now available for the identification of underground nuclear explosions. However, these fundamental improvements have not, as yet, brought about a modification of the attitude of those who insist on obligatory on-site inspections as indispensable for adequate verification.

The Government of the Netherlands takes the view that the possibility of on-site inspections would not change in any significant way the number of events which can be identified. A more technical analysis underlying this conclusion will be presented by the Netherlands delegation in the forthcoming informal meeting with experts. Two years ago the Netherlands delegation already stated that the only category of events to which on-site inspections are relevant comprises those which can be detected and located but not identified. There is no need for on-site inspections in the case of events which can be identified by seismological and other means while, on the other hand, events which cannot be located or not even detected by these national means could not possibly be traced by such inspections. We also stated at the time that this relevant group of events that could be located but not identified is becoming smaller and smaller as a result of developments in seismology. We are now of the opinion that, especially by virtue of present long-period seismic capabilities, this group of events has practically vanished.

The present and proven possibilities of seismological identification of underground nuclear explosions are sufficient to deter a would-be violator of an underground test ban except perhaps for very small explosions. In this context one has to take into account the problems which a potential evader of a nuclear test ban would encounter. A would-be violator could not be sure what seismic signal a planned test would cause. Great varieties in MB magnitude have been reported in several working papers presented to this Committee (e.g. CCD/362/rev.1 and CCD/399). The risk of being caught is aggravated by the circumstance that, as a rule, a reasonable testing programme would require a number of tests. Since a test ban violator would have to take the smallest possible risks of being caught, he would be forced to plan his tests far below the average 90 per cent identification level. In any case, in our opinion, obligatory on-site inspections do not enhance the deterrence of violation any more.

In this situation we do not quite see the advantages of a partial solution to the test ban problem, as proposed by the distinguished representative of Japan. In 1971 we formulated several disadvantages of a threshold solution, and we still deem them valid. However, if there is still some doubt about identification capabilities near the detection threshold, we are ready to support the Japanese idea of starting with a threshold solution, the main merit of this proposal being that really no one can question the identification of events above, say magnitude 6.0, or probably less, by seismological means. We will be happy to discuss these problems at the informal meeting in July.

2. Cut-off in the production of fissionable materials for use in weapons

The distinguished representative of Japan raised another point which, in our opinion, is relevant to the implementation of the Non-Proliferation Treaty and its review conference. On 1 March 1973 and again at the meeting on 26 June 1973, Mr. Nisibori mentioned the cut-off in the production of weapons-grade uranium and the diversion to peaceful purposes of such uranium and of the facilities for its production. I suppose that in this context not only highly enriched uranium, but also plutonium, should get atten-

tion; but, apart from that, the Netherlands fully support the Japanese plea to make progress in this field.

The question of cutting off the production of fissionable materials for weapon purposes was raised by the United States already a long time ago. Numerous proposals on this question have been made, especially by the United States, and the Netherlands has always given them strong support. In 1964 some progress could be made by actions of the Soviet Union, the United Kingdom and the United States, undertaken on the basis of mutual example. The hopes raised by these actions were not realized in the years thereafter. The Soviet Union was of the opinion that a cut-off was not worthwhile because it would not deal with the means that already exist for waging nuclear war. This argument was not very convincing, especially in view of the United States proposal to accompany the cut-off measures by the transfer of significant amounts of nuclear material from military to peaceful purposes. The world could have been somewhat different and more secure if agreement had been reached on this question a long time ago.

However this may be, at this moment an additional factor must be taken into account. We are approaching the situation in which large parts of the world are coming under effective nuclear control by the implementation of the safeguards system under the Non-Proliferation Treaty incorporated in agreements with the IAEA. This holds especially for important West European countries and all non-nuclear weapon States in Eastern Europe while, for example, Japan has started negotiations with IAEA. The United States and the United Kingdom have offered to put their peaceful nuclear installations under IAEA safeguards. This very important gesture underlines the willingness of these nuclear Powers, parties to the Non-Proliferation Treaty, to undertake obligations comparable to some of those undertaken by the non-nuclear weapon States, parties to the Treaty.

As I have mentioned before, it is extremely important that the nuclear Powers show their interest in the Non-Proliferation Treaty in a concrete way, for example by accepting safeguards on all their peaceful nuclear activities. The universal implementation of the IAEA safeguards system on all nuclear material in the peaceful nuclear facilities of all parties to the Non-Proliferation Treaty, whether nuclear weapon States or not, would show the world that the nuclear Powers are serious in their desire to curb the arms race. Supporting Mr. Nisibori's appeal of 26 June, I should like to ask the Soviet Union to accept the safeguards measures which it is pleased to see accepted by so many other countries.

Using the Non-Proliferation Treaty safeguards system as a base it would be quite easy to control the implementation of an agreement on the cut-off of the production of weapons-grade fissionable materials, as the Japanese delegation has already pointed out. An extension of IAEA control to certain facilities, especially enrichment and reprocessing plants, would probably be sufficient. Other inspection schemes could also be envisaged for an effective control of a cut-off agreement.

The Netherlands fully supports the idea that the super-Powers should make available significant amounts of weapons-grade material from military stockpiles for peaceful purposes. The weapons-grade character could be destroyed by blending, as Mr. Nisibori has pointed out, or the materials could be brought under IAEA control or, preferably, both. One could envisage that especially the developing countries would profit from these fissionable materials so as to provide cheap energy for their development. A similar idea has already been mentioned in the report entitled Disarmament and development, written by a United Nations group of experts under the chairmanship of the very distinguished representative of Sweden in this Committee, Mrs. Alva Myrdal.

The working paper submitted to the Committee deals mainly with the development of the provisions contained in article IV of the socialist countries' draft convention regarding national control. International procedures are hardly dealt with at all in this document; but this, of course, does not mean that the sponsors of the working paper do not attach due importance to the international procedures referred to in the draft convention submitted by the socialist States. The international procedures provided for in this draft convention are an important and inalienable part of the guarantees that States parties to the convention will comply with the obligations they assume in regard to the prohibition of chemical weapons.

In submitting the working paper for consideration by the members of the Committee, the sponsors are guided by the desire to secure early agreement on the prohibition and destruction of chemical weapons. Of course, this paper does not exhaust all aspects of the complicated and many-sided problem of national control. We believe, nevertheless, that a discussion on those aspects of the problem which are reflected in the working paper would substantially facilitate progress in the work on the prohibition of chemical weapons. Some of these aspects have already been touched upon at the Committee's meetings, including the informal meetings held in July 1972 with the participation of technical experts, and also in other working papers submitted in the Committee, including working paper CCD/400 submitted by ten non-aligned States. The working paper presented today touches upon questions raised in the above-mentioned paper by the ten non-aligned States, in that it relates to certain aspects of national guarantees ensuring compliance with the prohibition of chemical weapons.

Let me review briefly the contents of the working paper submitted to the Committee.

The first part of it provides for the possibility of national control committees to be established by States parties as an essential element in the national system of control over compliance with the agreement within the territory of the States concerned, under its jurisdiction and control. Such a committee, by random verifications, is to supervise compliance with the prohibition of the development, production and stockpiling of chemical weapons and their destruction. The committee, whose composition is to be determined by the State party, could include representatives of governmental and public organizations, depending on the specific conditions existing in the country concerned. The national control committee is to have a working staff including specialists in chemistry and economics. The working paper lists some modern scientific and technical methods of control which can be used by the committees. Internal legislation should provide for the national control committees to submit reports to national governments on their activities, and should allow for the publication of such reports for general information.

The second part of the paper mentions the possibility of a voluntary exchange of information among States, in the form of discussion of new data obtained as a result of scientific research on the development of new chemical products for peaceful uses. Such an exchange would be a form of international co-operation to ensure the reliability of guarantees that States are complying with their obligations relating to the prohibition of chemical means of warfare.

The third part of the working paper deals with some questions relating to statistical analysis as an element in national control over the prohibition of chemical weapons. Analysis of statistical data from open publications, on the production and consumption of chemical raw materials and semi-finished products, and a comparison of the amount of chemicals produced with the amount consumed for peaceful purposes, may to a certain degree provide evidence of the way in which States are complying with their

obligations under the agreement. Discrepancies between the amounts produced and consumed, as shown by such a comparison, should be carefully studied.

And, finally, part four of the working paper deals with limitations on the patenting of prohibited chemical substances, weapons, equipment and means of delivery. To lessen the incentive for developing chemical weapons, it would be expedient to cancel all existing patents for chemical agents for military use, and also for weapons, equipment and means of delivery intended for the use of such agents for military purposes. It is also necessary to prohibit the patenting of chemical compounds of this kind, and also the patenting of the means of using them for military purposes.

In conclusion, we would like to point out that, of course, each country participating in a future agreement on the prohibition of chemical weapons will itself determine the forms and methods of national control. The considerations expressed in the working paper submitted to the Committee relate only to some possible forms of such control. We believe that other possible aspects of national control over compliance with the agreement, and also appropriate international procedures, could be discussed in the Committee in the course of its further work.

It goes without saying that the authors of the working paper believe that a system of guarantees of compliance with the agreement should not prejudice the security and peaceful development of States. What they have in mind is that, under the Geneva Protocol of 1925, States possessing chemical weapons are prohibited from using such weapons against other States. The system of guarantees should not create obstacles to the application of achievements in the field of chemistry for peaceful purposes by all States on a basis of equality, or to widespread international co-operation in this field in accordance with article IX and other provisions of the draft convention submitted by the socialist countries on 28 March 1972 on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction.

CCD/PV.609 pp.20-22

USA/Martin

3.7.73

CW

There is a great deal to be discussed regarding section III of the memorandum which deals with verification and the system of control. However, today I shall begin to discuss only one of the central issues, that of verification of the destruction of stockpiles which is referred to in paragraph 14.

In the past, we have explained why we believe destruction of stockpiles raises particularly difficult verification issues. In the United States work programme, we indicated that while there is evidence which suggests the existence of substantial quantities of chemical arms in present day arsenals, there is general uncertainty over the size and composition of chemical weapons stocks in existence. We have also pointed out that storage of chemical weapons by its nature is not a readily identifiable activity, and we have submitted several additional working papers showing why this is the case.

Against this backdrop, let me turn to the fourth and fifth sentences of paragraph 14 of the memorandum. These sentences read: "The verification system should encompass all activities related to development, production and stockpiling of chemical warfare agents. As a non-recurrent measure, international inspection could also be specifically provided for in order to verify destruction of stocks in a manner to be agreed upon between the international control organ and the state party concerned."

These two sentences raise in our minds a number of points and questions which we believe to be important in considering verification for any agreement designed to eliminate stockpiles. One question is how the parties to the agreement would obtain precise knowledge of the extent of the existing stockpiles to be destroyed under the terms of the agreement. We assume that such knowledge would be necessary, and we shall be

discussing this point in subsequent interventions. Related questions are: should there be a requirement of declarations from parties? If so, how detailed should they be? Should they enumerate the different types of agents and munitions and the quantities located at specified depots? What means would the parties have to verify the accuracy of declarations before destruction begins?

The fifth sentence in paragraph 14 of the memorandum states that international inspection to verify destruction of stocks could be specially provided for "as a non-recurrent measure". This suggests that there might be a single inspection of a relatively brief duration which would take place while all of the party's stockpile is being destroyed. The problem, however, is that the destruction of a substantial arsenal could take many years to accomplish and it is difficult to see at what point in the process and at what location "non-recurrent" inspection would take place.

We would assume that the only method of ensuring that what was declared for destruction was actually destroyed would be for inspection to take place during the entire period of destruction. There is the additional problem, however, of whether or not there should be a possibility of inspection even after destruction was supposed to have been completed. Such inspection might be appropriate if there ever arose evidence that not all stockpiles had been destroyed.

In view of the above comments, the authors of the memorandum may wish to provide clarification about the reference to inspection as a "non-recurrent measure".

The fifth sentence of paragraph 14 of the memorandum also says that international inspection could be provided for "in a manner to be agreed upon between the international control organ and the State Party concerned". This suggests that procedures governing destruction could be left for agreement following entry-into-force of the basic treaty. It raises the possibility that procedures for destruction might be subject to varying provisions as between the international control organ and different parties. We mention these points because we believe that procedures for destruction, and inspection of that destruction, should be understood, and basically agreed upon, prior to agreement on provisions for stockpile destruction. That is to say, parties to the treaty who might be called upon to carry out destruction and thus eliminate their deterrent stockpile might reasonably expect to know what they will be called upon to do and how it will be verified. Of at least equal importance, all parties, particularly those called upon to carry out destruction, will want to know the nature of the inspection which will take place to reassure them that other parties having chemical weapons will be eliminating their stockpiles.

The issues and questions I have raised regarding the last two sentences of paragraph 14 of the memorandum are, as I have said, important ones for our delegation. I will return to the question of verification, including the particularly difficult verification issues involved in destruction of stockpiles, in connexion with comments regarding the Swedish delegation's working paper on the concept of amplified verification. We will also be commenting on other verification aspects of the ten-delegation memorandum.

As I said in my opening statement on 12 June, we will participate this summer with other delegations in exploring further what possibilities might exist for achieving adequately verified comprehensive prohibitions. This discussion has now begun and it will, of course, be expanded as we comment in greater detail on section III of the ten-delegation memorandum.

There are several indications that there is a considerable interest growing for international monitoring for control purposes, most actively being visible in regard to

pollution and other environment problems, where an "Earthwatch" is already being established. There are also suggestions of international accountability for the flows of certain substances. An example of a similar kind may be gleaned from another field of activity, namely space exploration. At the recent meeting of the United Nations Working Group on Remote Sensing of the Earth by Satellites, the representative of the United States promised that United States data would be released regularly for international use. I quote: "If, after examining the cost and other factors involved, the need for an international distribution center or centers of some kind should become apparent, its character defined and, at a later date, its establishment agreed, the United States would undertake to provide a master copy of the data we receive from our experimental satellite program and to do so on a timely basis".

This interim IDO or UN-DISCO should not be a huge machinery. Costs should be kept to the minimum of administrative necessities. Unlike the Environment Programme, the IDO would hardly need a fund for operations. It should have a semi-independent status within the United Nations, its budget allocation being underwritten by the United Nations.

The fair degree of independence needed for an organ whose whole respectability -- yes, usefulness -- hinges on its objectivity and freedom from political shackles, also indicates an answer to a point which I raised in my April statement: through what channels should the IDO report to the General Assembly? There are two pitfalls to avoid. One is duplication of reporting, of paper work and of discussions, which easily occurs when reports are dealt with at several echelons. The other is the veto which might be brought into play if the reporting were to be channelled through the Security Council. As this is nevertheless probably the appropriate route, there must be some barring rule assuring that the Council should at this stage of the processing only transmit the report with comments as necessary with regard to questions of co-ordination and relationship with other United Nations programmes, but without entering into the substance of the report.

The urgency now to prepare a structural pattern for dealing with disarmament issues is also partly dictated by the need of having some centrally located body to prepare and organize meetings, most specifically the periodic review conferences, foreseen in some of the treaties in the field of disarmament, i.e. the Non-Proliferation Treaty, the Sea-Bed Treaty and the Bacteriological (Biological) Weapons Convention. This idea also seems to be supported by the Netherlands Government, although they perhaps rather stress such a relation in the opposite direction: the review conferences might want to entrust special tasks to such an organization (CCD/PV.608), an interesting idea to which I subscribe.

As the first of these review conferences is slated to be held already in the spring of 1975, this fact will have to be kept in mind when we consider the timetable of this organizational innovation.

I also like to bring forward reasons of a more principal nature for not postponing action on the organizational matters. There is actually no reason to wait for agreements in treaty form before we start monitoring what happens in one field or another of disarmament interest. The sequences can just as well, and in the absence of agreements must, start with the monitoring.

Let me take as example the two issues we are most actively studying this year, a ban on nuclear weapon testing and a ban on chemical means of warfare. For the implementation of a test-ban we have reached practical agreement that a data exchange is necessary. This was proposed several years ago by the Swedish delegation. Since then the importance of such an exchange has become widely recognized. A number of countries, Canada, Japan, Sweden, the United Kingdom, Australia, India, Finland, Denmark, Norway, the United States and others are now in various degrees and ways

exchanging seismic data. All this is for purposes of research in connexion with the detection and identification of underground nuclear explosions. These exchanges are not "operational" and mostly informal, but nevertheless the data exchange exists in a way, although official action on its formal implementation is slow. And here I ask, why should we wait further for its start on an official basis? Not much of an organizational overhead would be needed to put such data exchange on a more official footing within a provisional IDO. Setting up a clearing-house for this data exchange fairly soon would make the distribution of information much more effective than if it has to rely on dissemination by individual detection club members.

Similarly, in regard to chemical agents, a data exchange could begin to be built up on the basis of information which States are already beginning to collect nationally, and then gradually expanded into the kind of verification arrangements which have been recommended. My thesis is: such verification arrangements -- or rather monitoring activities -- can well proceed without a treaty. Yes, they might well, by beginning to prove their worth, stimulate the emergence of a treaty.

While the case for some organizational innovation for the sake of disarmament is strong and urgent, I want to assure my colleagues that I only recommend that we proceed to take a few first steps. It might even be premature to believe that a decision to set up a small provisional IDO could be taken already at the forthcoming session of the United Nations General Assembly. I therefore suggest that we come to grips with all the inter-connected organizational problems through establishing an orderly procedure by which the views and the interests of all United Nations Members can make themselves felt. The urgency is given added poignancy by the obvious stalemate of today, with the Special Committee on the World Disarmament Conference not functioning and the Committee on Disarmament not producing results.

What I suggest is, first of all, a sincere attempt of the next General Assembly to get consensus on convening the world disarmament conference. If such a decision is not immediately forthcoming -- despite efforts at compromise, e.g. to place the Chinese claims as priority items on the agenda -- a decision must be taken on an alternative series of early steps: (a) convening a session of the United Nations Disarmament Commission for next spring, which should first of all function instead of the obviously non-functioning Special Committee on the World Disarmament Conference; (b) instructing that Commission to seek to establish some provisional organ -- Council -- on an experimental basis, such as the IDO indicated above. It would be surmised that the world disarmament conference would thereafter become the forum to treat in depth both the organizational aspects, including a re-assessment of the Committee on Disarmament, and, above all, the substantive aspects of disarmament, assuring us of speedy and sustained progress towards that goal.

CCD/PV.612

pp.9-11

USSR/Roshchin

12.7.73

CW

One important problem relating to the prohibition of chemical weapons is the question of control over compliance with an agreement banning chemical weapons. We realize that the solution of this problem entails considerable difficulties which, nevertheless, can and must be overcome. What is required, of course, is the necessary willingness on the part of all the participants in the negotiations.

Up to now the prevailing view in the Committee has been that the system of control over the prohibition of chemical weapons should be based on a reasonable combination of national and international forms of control. It is precisely a system of this kind which is provided for in the socialist countries' draft convention of 28 March 1972.

We note that this approach to the question of a control system is, in general,

accepted by the ten non-aligned nations in their working paper on the prohibition of chemical weapons. The document says that the assurance of compliance with the prohibition

"could be provided through a combination of national and international measures which would complement and supplement each other, thereby providing an acceptable system which would ensure effective implementation of the prohibition". (ibid., para.11)

The working paper submitted by the socialist countries on 28 June 1973 (CCD/403) on ways of implementing control over compliance with the convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction considers certain forms of national control in amplification of article IV of the socialist countries' draft which refers to measures of national control that States are obliged to take within their territory, under their jurisdiction or control.

National forms of control may, in general, be determined by each State party to the agreement. The initiative of States in this respect is not limited. It is precisely with this approach in mind that the relevant provisions of the draft convention of the socialist States (article IV) are formulated in general terms. Depending on local conditions, the forms of national control may differ from country to country. It would be desirable, nevertheless, to consider in the course of the negotiations some possible general forms and methods of such control, whose application might produce optimum results.

The working paper of the socialist countries presents some considerations regarding certain possible ways in which States might fulfil their obligations in regard to the implementation of national control -- such as the establishment of national control committees, statistical analysis, and limitations on patenting. The consideration and study of the question of the forms of national control can, of course, be continued.

International co-operation in implementing the provisions of a convention prohibiting chemical weapons, or international procedures for lodging complaints of violations of the convention and for investigating such complaints, are dealt with in articles V and VI of the socialist countries' draft convention and can be implemented in accordance with the provisions of the United Nations Charter.

In the opinion of some countries, the comprehensive prohibition of chemical weapons should be conditional on compulsory on-site inspection. Such a form of control would involve outside interference in a wide range of the activities of States and can therefore hardly be acceptable to many participants in the negotiations who are willing to ban chemical weapons completely. In view of the close connexion between the production of chemicals for military and peaceful uses, international inspections are an undesirable and unnecessary method of verification. Besides, visits by foreign specialists to chemical enterprises would lead to violations of industrial property as they would involve disclosing industrial secrets.

CCD/PV.613 pp.13-21

USA/Martin

17.7.73 CW

You will recall that in my intervention of 3 July I said that I would be returning to discussion of the ten-delegation memorandum entitled "Working paper on the prohibition of the development, production and stockpiling of chemical weapons and their destruction" (CCD/400). Today I would like to address myself to sections III and IV of that memorandum concerning verification and a complaints procedure.

The issue of verification goes to the heart of the question of limitations on CW, and the possibilities of adequate verification are a key factor in considering the scope of any agreement.

Because of the potential adverse impact on its national security, a State cannot be expected to relinquish its CW deterrent capability (which would, of course, be required under a comprehensive CW ban) unless it is adequately assured that other States have similarly and concurrently relinquished their CW capabilities.

We believe that the members of the Committee are completely aware of the necessity of adequate verification. For example, the Yugoslav delegation has noted "that the problem of verification is emerging as a key issue and that the solution of the whole problem will largely depend on whether a functioning, reasonable and politically-acceptable verification system is possible." (CCD/PV.548, p.6).

The representative of Sweden remarked in our spring session that "the absence, as in the Biological Weapons Convention, of any continuous verification measures would not be acceptable in a convention on chemical weapons."

He went on to remind us

"that in no disarmament field is a completely effective control system possible, if by completely effective we mean an absolute guarantee that every violation will be detected." (CCD/PV.590, p.10).

This point is well taken. As my country's representative, Mr. Leonard, has stated in this Committee (CCD/PV.502), the United States does not expect a perfect verification system. Let me say, however, that we would expect a system which provided a sufficiently high probability of detection of a violation in order to deter actions contrary to a ban.

With this as background, I should like to proceed to the first sentence of the ten-delegation memorandum's section on verification, which states that "The purpose of the verification system in a treaty prohibiting chemical weapons should be to give every Party a reasonable assurance of compliance of the prohibition." There can be varying interpretations of what a "reasonable assurance" might be. However, keeping in mind that the problem of chemical weapons can have an important impact on the security of States, we would not wish to renounce the possibility of maintaining a deterrent in kind unless assured that the system of verification provided a very high degree of confidence and protection.

Such verification is of a different nature from the concept of "reassurance" or "amplified verification," which was presented to us in the spring session by our Swedish colleagues. We plan to discuss this concept in a later intervention.

The ten-delegation memorandum goes on to state that assurance of compliance with the prohibitions of an agreement could be provided through a combination of national and international measures. This general principle has received wide support in the Committee, including support from Yugoslavia and Sweden, and from the group of twelve nations in their memorandas of 1970 (CCD/310) and 1971 (CCD/352). We can agree with this principle, and we believe the task before the Committee is to carry out a full examination of all possible verification measures in order to arrive, in the words of the memorandum, at "an acceptable system which would ensure effective implementation" of treaty provisions.

Paragraph 12 of the memorandum states that "The self-control of States parties to the treaty might encompass (a) declarations, at the time of entering into force of the prohibition, as regards national activities related to production and development of chemical weapons and agents, particularly concerning the destruction of existing stock-piles." A number of delegations have suggested that declarations concerning national activities might play a role in the verification process. For example, the delegation of Yugoslavia, which has done considerable work on the formulation of national and international control measures, has suggested that at the time for entering into force of a

convention on the prohibition of CW, statements by Governments about national activities carried on up to that time in the field of development, production and stockpiling of chemical weapons might be a part of a national control system (CCD/377, p.2).

We believe that declarations can have considerable value in a system of verification. Indeed, we find it hard to visualize countries agreeing to eliminate production facilities and destroy stockpiles in the absence of the provision by all parties of detailed lists identifying and locating facilities and stockpiles relevant to the treaty's provisions. These initial declarations would have to be both broad in their scope and specific in their detail. We believe further attention should therefore be given to developing a more precise understanding of the types of facilities and activities that would have to be listed in the declarations.

The ten-delegation memorandum refers to declarations as being submitted only at one particular time, namely, "at the time of entering into force of the prohibition." However, we would assume that thereafter supplemental declarations would be needed from time to time. Following the original listing of facilities, it would be of great importance for parties to declare periodically whether the facts contained in the original list had changed. Had new facilities been constructed? Had additions been made to existing facilities? Had some facilities been closed down? And so forth.

Thus far I have discussed only one type of declaration, that containing lists of facilities. Two additional types of declarations would also be particularly helpful in monitoring the prohibitions of an agreement. One type of declaration would consist of a general statement in which a party reaffirms, perhaps annually, and at an appropriately high political level of its Government, that it is complying with the agreement. Declarations of compliance issued at such a level could contribute to continuing reassurance that the treaty is being honoured.

Another type of useful declaration would be an annual or periodic statement of national production of substances limited by an agreement. In the case of nerve agents, annual production would be expected to be zero or near zero; in the case of dual-purpose agents, periodic declarations of production might aid in monitoring end use.

I have indicated that, for us, declarations made only "at the time of entering into force of the prohibition" would be of limited utility and would need supplementing. We would appreciate hearing further comment on whether it would not be preferable for a treaty to call for declarations at regular and fairly frequent intervals. We would also suggest consideration as to whether it would not be desirable to provide for several types of declarations of the sort I have outlined. Finally, further discussion would certainly be warranted regarding the amount of detail which ought to be called for in the various types of declarations.

While my comments have underscored the potential importance of declarations, I trust we will all bear in mind that declarations, no matter how specific, deal only with part of the verification problem. Declarations do not, and obviously cannot, deal with the problem caused by the possibility of undeclared facilities, activities, or stockpiles. This problem is particularly difficult in connexion with declarations regarding stockpiles. I have already raised this in an earlier intervention and I expect later to return to the general subject.

We can agree with the idea contained in clause (b) of paragraph 12, which we understand to suggest that States parties be required to adopt national measures aimed at implementing treaty prohibitions, including enactment of laws and regulations, in accordance with constitutional processes. A similar provision, but a relatively simple one, is contained in the Biological Weapons Convention.

The last two clauses of paragraph 12 suggest: "(c) the organization of a national system of control and control body with authorization to co-operate with the international control organ and (d) informing the international control organ of these measures

of self-control." We concur that there would appear to be a need for some organizational structure within a country to carry out verification activities required by an agreement. For example, there would have to be some agency responsible for collecting the information required for declarations. However, whether existing agencies could undertake these responsibilities or whether it would be necessary or desirable to establish a new organization, would not seem of particular importance provided the party intended to comply with its obligations.

The basic question is whether a national control body could be expected to carry out verification within the territory of its own country that would provide significant reassurance to other parties that the treaty's prohibitions were being complied with fully. The answer to this question would, of course, depend on the extent to which other parties would have confidence that the national control body will enjoy independence from the Government it monitors, and the degree to which the national body has unimpeded access to all relevant facilities within its country, military and civilian. I may wish to return to this general subject in a future intervention.

The first sentences of paragraph 13 of the ten-delegation memorandum concern verification by national means. Every State, of course, can be expected to use the national means available to it to assist in verification. I would emphasize, however, that we be cautious in the weight we assign to the capabilities of these means of verification. The several national means of verification which have been discussed in the Committee have distinctly limited possibilities as reliable indicators of chemical weapons activity. I refer to such means as remote sensing, economic monitoring, and off-site observation. With regard to verification of a ban on stockpiles, a United States working paper (CCD/366), after comparing the external appearances of facilities for storage of high explosives and chemical munitions, concluded that off-site observation could not solve the problem of identification of chemical munitions storage. Moreover, there is a good deal of uncertainty over the size and composition of chemical weapons stocks that countries may now possess.

The second sentence of paragraph 13 of the ten-delegation memorandum introduces the concept of consultations and co-operation as an element of verification. We believe that it would be useful for any agreement to provide for international consultations to resolve questions that might arise regarding implementation and compliance with treaty prohibitions. The last sentence of the paragraph suggests that such consultation and co-operation might be undertaken through appropriate international procedures "within the framework of the United Nations and in accordance with its Charter." This raises a more general question regarding the organizational framework for consultation and co-operation. It touches, therefore, upon the broader question of international organization in connexion with verification which I shall be discussing under paragraph 14 of the memorandum.

Paragraph 14 of the memorandum raises a number of quite important questions regarding international organization in connexion with verification of chemical weapons prohibitions. One question relates to the type of international body that might be established. The memorandum refers to "a qualified and independent international control organ to be designated by the States Parties." We are not sure how formal and complex a structure is envisaged. It seems to us that the question of whether a formal and complex international structure should be established for verification would depend to a considerable degree on the scope of the verification activities being undertaken by the body. In the case of verification of comprehensive prohibitions, an international control organization might be required to carry out very extensive international verification procedures.

I should interject at this point that our approach to establishment of international bodies for arms control verification has been to seek the simplest organization and

procedures consonant with the tasks of adequate verification. In connexion with possible chemical weapons prohibitions, we suggested in the United States work programme (CCD/360), part IV A, that a consultative body might be established. Such a body might have a number of advantages. It could provide the flexibility which might be helpful in dealing with problems that cannot be fully foreseen in a new area of arms control, and it could provide a convenient locus for consultations among governmental representatives with the assistance of technical experts. Similarly, a consultative body might also be a place for arranging inspection visits to clarify any situation not resolved by consultations. I have mentioned consultations again in connexion with paragraph 14 because we believe it would be desirable for consultations to take place normally within a suitable organizational framework. The concept of consultations "within the framework of the United Nations" as expressed in paragraph 13 of the memorandum seems to us to be too general and imprecise.

The first and second sentences of paragraph 14 also raise issues regarding the type of information that should be received by a control organ and that should be reported to parties. The memorandum says that "the results" of verification should be made available to all parties. The memorandum also states that verification might include collection, analysis and circulation of relevant data. There are, of course, important differences between raw data and results, and the way these should be handled and distributed.

Raw data collected by an international control body should be available to any interested party which wishes to study any or all of the facts in detail. However, the complexity of such an undertaking would, of course, vary with the scope of the prohibitions.

The memorandum also states that results should be made available to all parties "on an automatic and fact-finding basis." We are not clear as to what is meant by "results". At any rate, it would seem to us advisable for an international control body simply to have responsibility for publishing, in summary form, a strictly factual account of its activities, both periodically and in connexion with particular problems that are raised. We would appreciate further clarification of these issues.

We concur with the general idea in the second sentence of paragraph 14 that an international control body might provide appropriate assistance to parties that requested it in developing their own national procedures for verification.

The third sentence of paragraph 14 states that the international control organ should receive full assistance of States Parties in the development of international verification measures, including relevant technology at the disposal of States Parties. We agree with what we take to be the general idea of this sentence, although we think qualification is important. Parties can only be called upon to provide appropriate assistance. Some technology regarding, for example, national means of verification, relates to highly sensitive security matters which, by their nature, cannot be shared with an international body. On the other hand, many technological developments regarding verification might be of such a nature that they could be shared. When this is the case, assistance to the international control organ could indeed be advantageous for the over-all system of verification.

It also seems to us that this sentence does not cover adequately the range of co-operation which ought to be required of parties *vis-à-vis* an international control organ. Should not any agreement on chemical weapons contain an explicit undertaking that parties will co-operate fully with an international control organ not merely "in the development" of international verification measures, but in the carrying out of all verification procedures? — And particularly in the carrying out of any investigations? We would appreciate hearing views on this question.

In an earlier intervention, I commented on the last two sentences of paragraph 14, and will, therefore, now proceed to comment on paragraph 15 of the memorandum. We

can concur that an international verification system should be reviewed and, as appropriate, improved, taking into account new scientific and technological developments. We also agree with the second thought in paragraph 15, that the verification system should be established and implemented in such a way as to avoid the disclosure of scientific, industrial and commercial secrets. The problem posed in this sentence would be more acute if a verification system is of great breadth and detail, such as would be required for a comprehensive treaty.

I should like to turn now to section IV of the ten-delegation memorandum, entitled "Complaints procedure." Here it is stated that any Party might, as a last resort, lodge a complaint with the Security Council concerning an alleged breach of the provisions of the Treaty. It also states that the complaining party should submit to the Security Council all possible evidence, including a report or reports, which might be prepared by an international control organ.

We can concur in several of the general points reflected in this section. First, we agree with the clear implication of paragraphs 16 and 17 that there ought to exist international verification procedures which can be utilized to ascertain the facts regarding treaty observance, and that resort to the Security Council would be expected to take place after these international verification procedures had been utilized. We believe any fact-finding procedures should be of an effective and objective character.

This leads me to an important point. We note that the international verification measures in the memorandum do not provide for an international procedure of investigation, prior to resort to the Security Council, to determine the facts of a situation if there is a question of treaty compliance. The need for an investigatory procedure that could resolve a doubt as to a party's compliance would be particularly important for a comprehensive agreement where the destruction of stockpiles would have eliminated deterrents to the use of chemicals by others. The procedure would be needed either to confirm an alleged violation, or to clear up unfounded suspicions that might cause parties to take precipitate action that would endanger mutual security as well as the treaty itself. An investigatory procedure, including international inspections as appropriate, might be integrated with a complaints procedure into a coherent whole.

As I have already indicated, we agree with the general point that it would be appropriate for a country which finds that there is a threat to its security from an alleged treaty breach to take up the matter in the Security Council, submitting all possible evidence, including any reports of an international control organ.

I should like to note that the United States work programme also suggested the possibility of submission of complaints to the Security Council. We have come to question, however, whether it would be a good idea for any agreement on chemical weapons to contain explicit provisions on this matter. The right of Members of the United Nations to bring threats to their security before the Security Council is established under the Charter. It cannot be affected by any other agreement. This right will continue to exist under the Charter whether or not any specific language is included in a chemical weapons agreement, and there is no need to restate it. What is important is that appropriately effective international verification procedures should be formulated whereunder parties can establish the facts of an alleged violation.

I have previously stated that we would participate with other delegations in exploring further what possibilities might exist for achieving adequately verified comprehensive prohibitions, and that in this exploration we would be commenting on the suggestions and interventions of others. We have devoted considerable time and analysis to the ten-delegation memorandum because it is an important statement on the possibilities of a comprehensive agreement to which a large number of delegations subscribed. We hope that our comments have indicated how we look at some of the important verification and other considerations it raises, and we also hope that our comments will be useful in

the further examination of these issues. We believe considerable progress has been made in the Committee toward a realistic evaluation of the problems of any CW agreement, but as we indicated in our examination of the ten-delegation memorandum, we believe many points yet remain which require further elaboration. We look forward to hearing comments on the questions and issues we have raised.

CCD/PV.614 pp.6-10

Sweden/Eckerberg

19.7.73 CTB

Today I should like to make some comments on the question of a comprehensive test ban. They will be somewhat specific in that they pertain to the verification issue, which received such intensive attention during the informal meeting with experts last week.

The Swedish delegation supported the initiative taken by the representative of Japan, Mr. Nisibori, to convene these meetings. This initiative was in compliance with the request to our Committee from the General Assembly to give first priority to our deliberations on a treaty banning underground nuclear weapon tests, taking full account of the views of experts. The Committee is also requested to submit to the next General Assembly a special report on the results of its work on this matter.

Trying to assess last week's meetings, we have found that they were very useful. They threw more light on the technical possibilities of verification. I also believe that the experts' attention has become more focused on the special political problems of seismic CTB monitoring, and that the meetings might thus have promoted research and operational activities more geared to the CTB issue. A number of conclusions can be drawn from the meetings, relevant to our task of negotiating a ban on underground testing under efficient control.

It is clear that one will never be able to detect, locate and identify all possible nuclear explosions by using only seismological methods. But then this need not be the goal, even though the efforts to improve the state of the art should never cease. What it is necessary to achieve in connexion with a test ban is that the risks for a violator be made so high that they provide an effective deterrent against violations. In the opinion of the Swedish delegation, the main method for remote control, namely seismological monitoring, has advanced so far that one can correctly identify a sufficiently large proportion of nuclear explosions to obtain this desired deterrence against clandestine testing. I should underline that the methods are now sufficiently advanced. It is equally clear that there is a need for additional operational resources, first of all in the form of more modern stations, suitably placed around the world. The costs involved would be modest in relation to the importance of the issue.

Secondly, it would also be necessary to arrange for an efficient exchange of seismological data. We know that a data exchange already exists today, but it is obviously not at all as efficient for our purposes as it could be. Data to detect and locate earthquakes and explosions appear to be abundant, but few data to identify those events are exchanged. The present data exchange has evolved for the purpose of earthquake science, and is not geared to the needs of a test-ban control. It would thus be necessary to establish, as soon as possible, a sufficiently rapid routine exchange which -- above all -- must also include identification data.

Thirdly, it would be desirable to establish an international centre to receive the data, to carry out event locations and to redistribute the information to all participating countries. The event identification, however, should in our view be carried out nationally by the countries which are parties to the test ban.

We have learnt that several excellent centres for an exchange of data already exist. It seems to the Swedish delegation, however, that they would not, as they are at present, meet the requirements of a comprehensive test ban. Such a body should be

specifically designed for the purpose.

In this connexion, I should like to refer to the views presented by the leader of my delegation, Mrs. Myrdal, two weeks ago, when she discussed the different tasks of an international disarmament organization. She underlined that there was no reason to wait for the agreement in a treaty form before the special data exchange needed for a test ban -- one that includes also identification data -- started. Such an exchange, she said, might on the contrary stimulate the emergence of a treaty.

In conclusion, it seems that the present identification capabilities could be improved even more if there is a will to provide an efficient test-ban verification.

On the other hand, it is also understood that there could be some additional problems when a test ban is enforced. I am referring to different evasion techniques. Some accounts about the considerations in this field have been given. We feel, on the basis of information available, that it might be difficult to apply these methods in practice. We would, however, welcome more information in this field.

It is worth noting in this connexion that many statements and discussions on the test-ban verification issue seem to hinge on the idea that clandestine testing would be the course of affairs to be expected in case of a CTB. This is a concept that originated in the fifties and early sixties. I think it is time to have a new look at this aspect of our CTB discussion. We have to consider a mixture of military, technical and, not least, political issues which are important and crucial to the CTB issue. They are well worth serious political analysis. The purpose would be to clarify the present "scenarios" of a CTB situation, and to get rid of old, perhaps outdated, concepts and assumptions.

It seems symptomatic that a new concept of openness aimed at preventing evasion has found its place in the ABM-treaty, where "Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty". A similar agreement in a CTB-treaty -- coupled with a procedure for consultations to deal with any questions that might come up about compliance with the treaty -- could produce the same assurance and security against violations.

Primary responsibility for verification under the bilateral arms limitation agreements, SALT, has been given to satellite photography. We can, I think, consider the satellites as a sine qua non for these agreements. Considerable interest is also being devoted to the possibilities of using satellite observation for test-ban verification. We have had, at last, a first discussion of this during our informal meetings. It seems that the seismic techniques are expected to remain the primary means of control, but that satellites would offer valuable supplementary information.

The development of satellite reconnaissance methods during the last ten years has vastly increased the capabilities of the satellite-owning Powers to monitor what is going on in other countries. This increased information has reduced the risks of these Powers misinterpreting actions within other countries. Availability of information is an essential part of any safeguard system. Reconnaissance satellites seem to be efficient enough to monitor large-scale changes within a country, e.g. urbanization activities, harbour and factory construction, as well as detailed, small-scale activities within selected and limited areas, e.g. military movements in certain border regions. This means that satellite reconnaissance can be used to follow activities at known or suspected sites of underground testing of nuclear explosives.

Satellite reconnaissance could also be used in a CTB as a follow-up method to seismic detection and would increase the difficulties of carrying out clandestine testing. It will put on a nation wishing to test clandestinely the additional burden of ensuring that the explosions are concealed in such a way that they cannot afterwards be identified by satellites, when and if they were detected by seismological means. The satellite observation techniques would be of particular value in avoiding false alarms. Earth-

quakes often occur in uninhabited areas, and if any of them was small enough to remain unidentified the satellites could easily confirm from the lack of human activity that no underground test had been conducted.

Until now the big Powers have had, practically speaking, a monopoly of all the information derived from satellites. On the other hand, a trend exists towards international use of the data obtained, as in the "World Weather Watch". Many countries, including Sweden, have also advocated international control and management of observation satellites in the United Nations Working Group on Remote Sensing of the Earth by Satellites. The desire for international control is growing in regard to environment problems, and it is clearly in the interest of the great majority of States to ensure that satellite observation be internationalized for other control purposes also, including the verification of a CTB.

The question of on-site inspection remains relevant to our negotiations. It is understood that such inspections would be used not as a primary system of control, but as a follow-up in regard to events that have been detected and located, but not identified. Those events, however, are getting fewer and fewer, thanks to continuing advances in seismology.

The Swedish delegation has often underlined that we would have nothing against an agreement including some obligatory on-site inspections, if that was politically acceptable to all the nuclear-weapon Powers. As this is not the case, we can only note that the importance once attached to on-site inspections has decreased considerably. In our opinion the deterrence needed against clandestine testing can be obtained without obligatory on-site inspection.

Furthermore, there are still some questions which are not clear in regard to the continued demands for obligatory on-site inspections. We do not know how large the areas to be inspected would have to be or how the inspections would be carried out. We have also several times asked what number of obligatory inspections would be contemplated. Logically, all parties to a test-ban treaty have the same rights. However, this would lead to a very high total number of inspections. It has also been said that on-site inspections would be of special value as regards events with low yields, since it will not be possible to discriminate between such nuclear explosions and chemical explosions by seismic means. I think, however, that it would be difficult to promote the idea of obligatory on-site inspections of such relatively modest and not uncommon conventional explosions.

These considerations confirm our conviction that inspection by invitation would be the obvious solution. If there is, in the view of a party to a CTB, a need for further information, such a party could avail himself of the procedure which has been called "verification by challenge". This would entail a gradually more rigorous sequence of inquiries and exchanges of information, and allow, as a last resort, inspection as agreed upon by the parties involved.

In connexion with last week's informal meeting with experts, the Swedish delegation circulated a survey of nuclear tests conducted from 1945 to 1972. It shows that during this period more than 925 nuclear tests of different types are likely to have been conducted, and that more than 425, that is nearly half of them, have been conducted after the signing of the partial test-ban treaty ten years ago. Instead of the lower test frequency, which at that time was taken for granted, the world has been forced to witness an increase in nuclear-weapon testing.

The conclusion drawn by the Swedish delegation from the informal meeting with experts is that the technical problems of the verification issue cannot any longer constitute a real obstacle to a CTB. The combination of all verification capabilities makes the risk of discovery too high for a violator in spe. The decisive considerations must therefore be military and political. These considerations, however, are not the subject of my

intervention today. They have been dealt with extensively before and they will soon receive due attention again.

CCD/PV.616

pp.8-11

Mongolia/Dugersuren

26.7.73

CW

The draft convention of the socialist countries is based on the principle of a rational combination of national and international measures for verifying the implementation of the agreement. At the same time, as the representatives of the socialist countries have emphasized time and again, national control measures should undoubtedly play the main part, because "national self-control" is the basis for ensuring the effective implementation of any international agreement. It is precisely for this reason that working paper CCD/403, submitted by the socialist countries, concentrates on elucidating and expounding article IV of the draft convention, concerning national control measures.

The system of national control, and the forms and methods of its operation, will quite naturally be determined by each sovereign State party to the convention in accordance with its constitutional and other procedures. Nevertheless, it seems to us that there may be certain features which are common to the national control systems of all the parties to the agreement.

As has already been suggested in this Committee, national self-control could start with a declaration by each State party, at the time of entering into force of the agreement, on the legislative and administrative measures taken by it to prohibit the development, production, stockpiling, acquisition or retention of agents, weapons and equipment or of means of delivery designed for using chemical agents for military purposes, and on measures for their destruction or conversion to peaceful uses.

In our view it seems natural that the national control committees referred to in working paper CCD/403 should be vested with the high authority necessary to ensure the effective performance of the important function of control entrusted to them.

One of the functions of national control committees might be to participate in the exchanges of information described in the above-mentioned working paper. They might also take part in periodic review conferences or, to be more precise in the preparation of national progress reports on the implementation of the agreement, and in formulating conclusions on the progress of industrial development and scientific research in the chemical field, especially on questions connected with the development of new products or new trends in research.

We also believe that the representatives of national control committees might participate in an international meeting of experts, the main business of which, as has been suggested, would be to elaborate and adopt a unified programme and guidelines for verifying compliance with the agreement in the fields of production and research.

Since I have referred to an international meeting of experts, I should like to present one or two considerations by way of thinking aloud. Such a meeting could be convened by the States parties to the convention whenever the need arose. It could submit its conclusions and recommendations to periodic conferences for reviewing the implementation of the agreement, particularly its conclusions and recommendations on matters connected with the possible discovery of new chemical products and new trends in research. These problems will naturally call for special attention by the parties to the agreement, in order to ensure proper compliance with it. The meeting of experts might also perform the function of providing, at the request of the party concerned, expert assistance in carrying out its national measures to implement the agreement. It might also play a useful role in solving problems relating to complaints of violations of the provisions of the convention as provided for in article VI. Of course, such participation

could be exercised only on the basis of a Security Council decision and at the clearly expressed request of the party, against whom the complaint is lodged.

My delegation fully shares the view that the use of international control is bound up with serious difficulties. International control, especially on-site inspection, upon which some western representatives insist, as the decisive condition for reaching agreement, is tantamount to allowing outside interference in a broad spectrum of industrial and scientific research activities of the States parties. The rightness of the position of those who consider on-site inspection unnecessary is being increasingly confirmed by actual developments.

It seems to us that in view of the perceptible improvement in the international political climate and the strengthening of mutual understanding among States the concept of the necessity for on-site inspection which continues to be a serious obstacle to the conclusion of important international agreements on curbing the arms race and on disarmament, is destined to lose ground. For this concept is based on suspicion and ill-will; I would say that it bears the stamp of the "cold war".

Apart from anything else, the idea of on-site inspection is in our view so artificial that even its present proponents will surely renounce it if, for one reason or another, the question of applying it arises.

CCD/PV.617 pp.6-8

Netherlands/Rosenberg Polak

31.7.73

IDO

The Netherlands delegation is today tabling a working paper (CCD/410) on an international organ for the support of a CW convention and other disarmament agreements.

On several occasions the Netherlands has expressed the view that a standing organ should be a major element of verification arrangements in connexion with a CW convention. On 27 April 1972, I said:

"It would be an illusion to think that a C-weapons convention would solve all our problems at one stroke. When applying such a convention, we will be faced with problems which will remain with us, such as those arising out of the close link between civilian and military applications of chemical agents and out of new developments in science and technology".

(CCD/PV.560, p.10)

On 6 November 1972, the Netherlands representative in the First Committee of the United Nations General Assembly observed that in dealing with chemical disarmament we encounter the difficulty of trying to eliminate the potential for chemical warfare while knowing that complete elimination is not possible. A control system on the chemical industry in all its ramifications would be unworkable, but in order to uphold mutual confidence, a standing body would be needed with tasks in the fields of examination of technical questions, consultation, fact-finding and mediation (AC.1/PV.1884, pp.11-12).

Apart from its practical value as the operational framework of a CW convention, such an organ would have the merit of offering the opportunity to divide the process of verification into two distinct phases, separating fact-finding from political decision. The organ could serve as a medium for the exchange of views and of information in a business-like manner and on an equal footing, before complaints would be lodged with the Security Council.

In the above-mentioned intervention in this Committee we proposed to devise the organ as the nucleus of an international disarmament organization to which responsibilities in other fields could be allocated in due course, for example in connexion with a comprehensive test ban treaty. I also referred to the review conferences in the years ahead, as provided for in the Non-Proliferation Treaty, in the Sea-Bed Treaty, in the BW Convention and, possibly, in a CW convention. There seems to be a need for stream-

lining this pattern of unco-ordinated effort in the field of disarmament.

The delegation of Sweden devoted its intervention in the Committee on 17 April 1973 to the concept of an international disarmament organization (CCD/PV.601). Such an organization was conceived as a clearing house for knowledge on matters relating to the implementation of disarmament treaties. It would be part of a two-tier system, its second level being constituted by various specialized agencies like IAEA and WHO. The international disarmament organization (IDO) would, in the Swedish view, not need itself to undertake investigations, but should assign specific investigation tasks to the specialized agencies. A Swedish intervention on 5 July 1973 (CCD/PV.610) contained the suggestion to create an interim-IDO, even before a particular disarmament agreement would invoke its activities. It should be independent and free from political shackles to such a degree as to bar the Security Council from dealing with the substance of the reports which the organization would submit to it.

The Netherlands approach is somewhat different. We suggested the creation of an international organ to which a CW convention could entrust certain functions, but with a built-in capacity to adopt responsibilities in other fields of disarmament. Thus one could be assured that an international organ would indeed be at our disposal for the operational support of a CW convention and, also, that an international disarmament organization would not be created in a vacuum, that is to say outside any agreement that would commit States to concrete disarmament measures. It was envisaged to set up the framework of such an organ in a separate instrument, while specific tasks would be allocated to it: (a) by a CW convention, which could be concluded more or less simultaneously; (b) by future disarmament agreements, in the first place a comprehensive test ban treaty; and (c) by the review conferences provided for in existing treaties as mentioned in the foregoing (even to the extent of delegating all their responsibilities to the organ). These tasks could include examination of technical questions, consultation, fact-finding and mediation.

Thus, the Netherlands approach differs from the Swedish approach because it links the envisaged body directly to an agreed disarmament measure, while enlarging its potential field of action beyond the limits of a clearing house for information.

CCD/PV.617

pp.8-10

Japan/Nisibori

31.7.73

CTB

It is my great pleasure to note that the informal meetings with the participation of experts on CTB were held as scheduled from July 10, and continued for four days of intensive and fruitful discussions. In the name of the Japanese delegation, which proposed the holding of these meetings on 10 April (CCD/PV.599), I wish to express my profound gratitude for the maximum co-operation given by delegates, the experts and the members of the Secretariat.

The meetings secured the attendance of twenty-two experts from nine countries, including three non-aligned countries. These figures are remarkable when compared to those of the previous meetings: five experts from five countries participated in 1970 and eight experts from five countries participated in 1971. This fact well indicates serious international concern for banning underground nuclear weapon tests and shows how well and widely it is understood that the analysis of seismological and other technically related problems has a very important bearing on banning underground nuclear weapon tests.

The previous meetings, if I may say so, tended to drift away from discussion on the delegates' level, and anchor in a debate among experts using technical terminology to discuss very specialized questions. This year's meetings, in contrast to the former ones, provided a forum for the exchange of views between delegates and experts; delegates

positively took the floor and experts made enlightening remarks. In this respect, also, I believe that the meetings were a great success. Furthermore, I consider that this balanced exchange expresses the eagerness of the members of this Committee to resolve the question of a comprehensive test ban, which has been entrusted to this Committee for deliberation as a matter of first priority.

We also consider that the results of co-operation during the past year between Canada, Sweden and Japan on the verification of a comprehensive test ban through seismological means have been reflected in the meetings just concluded. We intend to further promote our co-operation with the countries concerned in the hope of solving this question.

In assessing the meetings, I am in perfect agreement with the statement made on 19 July by the representative of Sweden, Mr. Eckerberg, that the meetings "...threw more light on the technical possibilities for verification" and that "A number of conclusions can be drawn from the meetings..." (CCD/PV.614, p.6). I wish to point out, in particular, that through the four days of intensive discussions, important clarification was offered concerning the technical aspects of a comprehensive test ban. That is to say:

- (1) It has been confirmed that the seismological means is highly effective in the process of verification, but that it has certain limitations so far as we depend on teleseismic observation.
- (2) It has been agreed among experts that the ultimate detection threshold is Mb:4.0; that is, explosions of 1 to 2 kilotons in hard rock.
- (3) It was reported that, if the difficult question of evasion were to be excluded, the identification threshold would approach the detection threshold as a result of recent research and development.
- (4) The experts also agreed that, although a very high verification capability has been achieved for comparatively large explosions, 100 per cent certainty cannot be expected for comparatively small events. As for this uncertainty, one expert stated that there was a high possibility of disclosing evasion in the case of explosions of more than 10 kilotons and that, therefore, the present high capability of the seismological means of verification, even without 100 per cent certainty, would be enough to deter from non-compliance with the treaty. On the other hand, it was categorically pointed out by the United States experts that evasion in the case of explosions of 50 to 100 kilotons was highly possible and that even small-yield tests may be highly valuable in strategic terms, and therefore that on-site inspection cannot be eliminated in realizing an underground nuclear weapons test ban.
- (5) In defining threshold criteria, it was suggested that yield value, which describes the source size, should be employed instead of seismic magnitude. But it was pointed out that it is difficult to assess the yield before determining the magnitude, which, in itself, is very difficult to determine.
- (6) There were questions and answers concerning the possibility of using satellites or conducting on-site inspections as a means of verification. The majority agreed that, in the verification of a comprehensive test ban, these means should supplement the seismological means. In this context, many experts emphasized the future need for international co-operation in the field of seismology, and we welcome the United States proposal of a concrete programme for the acquisition of a high-quality data base.

As we have just reviewed, we consider that, so far as seismological means of verification are concerned, a technical assessment has been fully made, and that there is a consensus among the experts on the following three points:

- (1) assessment of the present verification capability;
- (2) the future attainable goal; and
- (3) the necessary reinforcement of the existing observation and data-processing facilities.

Minor technical points still require further study. However, when we recall the technical talks on seismological means of verification which were first held in 1960, we note that great progress has been made since then, and that this progress has enabled us to come to a full realization now of what can be done and what cannot be done.

I wish to pay high tribute to the experts of the United States, who made very frank and conscientious statements even on delicate issues such as the military significance of small-yield explosions and on-site inspections. The statements by the United States' experts threw much light on the central issue of how to deal with the verification of small explosions which cannot be detected even as seismic events, if these small explosions are of any military significance.

There remains a difficult question arising from evasion. If evasion techniques were improved, it would become difficult to identify even comparatively large explosions as suspected events. The argument has been previously put forward by some representatives that verification would be fully achieved by adopting a combination of national means and international seismic data exchange. We would wish, therefore, to hear from these sources what steps could be taken against suspected events.

CCD/PV.617

pp.17-18

Bulgaria/Voutov

31.7.73

CTB

The peace-loving peoples of the whole world are awaiting the adoption of important political solutions with the object of achieving substantial progress on disarmament in the very near future, beginning with the prohibition of chemical weapons and the banning of all nuclear tests by all countries. The meetings which took place recently with the participation of experts on problems of the detection and identification of underground nuclear tests were interesting and to some extent useful for the Committee's future work. But, as was expected, they did not make any decisive contribution whatsoever towards solving the question of verifying compliance with the ban on nuclear tests. The conclusion that may be drawn from the results of these meetings is that the reasons why some countries refuse to accept the prohibition of all nuclear tests are primarily of a military and political nature, not technical. It is already quite clear that a detailed consideration of the technicalities of that question will not lead us to our goal. Both at the meetings attended by experts which took place from 10 to 13 July this year and at various international conferences and seminars organized by individual countries and by international institutes such as the International Institute for Peace and Conflict Research (SIPRI), steadily increasing support is emerging for the view held by scientists from different countries that the proposal concerning so called on-site inspections on which the United States and some of its allies have been insisting for many years, is quite out of date and does not take account of realities. And those who persist in upholding the demand for on-site inspection, refuse to take into consideration the opinion and conclusions of the majority of the experts, the object being to cover up specific military and political objectives. Even before the meetings with the participation of experts began, all those who were present heard the remarkable statement by the Netherlands State Secretary for Foreign Affairs, Mr. Kooijmans, who spoke as follows: "Especially in the last, say, five years, it has become clear to practically all of us here that fundamental improvements in seismological identification techniques have been made. ... However, these fundamental improvements have not, as yet, brought about a modification of the attitude of those who insist on obligatory on-site inspections as indispensable for adequate verification... In any case, in our opinion, obligatory on-site inspections do not enhance the deterrence of violation any more... In this situation we do not quite see the advantages of a partial solution to the test ban problem, as proposed by the distinguished representative of Japan". (CCD/PV.608)

I should like to refer also to the view of the representative of Sweden, Mr. Eckerberg, who in his statement of 19 July 1973 said the following:

"In the opinion of the Swedish delegation, the main method for remote control, namely seismological monitoring, has advanced so far that one can correctly identify a sufficiently large proportion of nuclear explosions to obtain this desired deterrence against clandestine testing... The event identification, however, should in our view be carried out nationally by the countries which are parties to the test ban... In our opinion, the deterrence needed against clandestine testing can be obtained without obligatory on-site inspection... The conclusion drawn by the Swedish delegation from the informal meeting with experts is that the technical problems of the verification issue cannot any longer constitute a real obstacle to a CTB... The decisive considerations must therefore be military and political". (CCD/PV.614)

The statements by the representative of the Netherlands and Sweden from which I have quoted were confirmed in varying degree, directly or indirectly, in the statements by the experts from Canada, Egypt and other countries. All this confirms once again the rightness of the position of the Soviet Union, namely, that it is necessary to ban all nuclear tests -- in all spheres -- by all the Powers, and that national means of control are sufficient to identify any tests that may be carried out in violation of the test ban. The Peoples' Republic of Bulgaria completely endorses this entirely justified, honest and sincere position of the Soviet Union, which, if it were adopted by all countries, and above all by the other four nuclear Powers, might open up a new era in the attainment of decisive successes in the disarmament field.

CCD/PV.617

pp.21-22

USA/Iklé

31.7.73

VER

Let me bring up a third point of a more general nature. We need a sense of proportion in sorting out our priorities. For example, we could probably all agree that the dangers from nuclear weapons by far outweigh the dangers from chemical weapons. I am convinced that the vitality of this Conference is strong enough so that the various priorities of disarmament will all receive their proper share of attention. I know that your energies and skill will not become totally absorbed by the considerable difficulties of limiting chemical weapons -- that is to say, this uniquely difficult problem of verification. Indeed, this very summer several of you actively participated in a productive discussion of seismological approaches for verifying a comprehensive nuclear test ban.

This brings me to my fourth point, which concerns the question of verification. Verification -- let us be frank about it -- is a substitute for full trust. Where there is full trust, there is no need for verification. Hence, it does not make sense to propose verification schemes that presuppose full trust among the Governments that are to be party to a treaty. So called "national means" of verification, therefore, must not only be capable of producing the requisite observations or data, but also must be entrusted to the party (or parties) that wish to reassure themselves, and not to the parties about which the reassurance is being sought. Thus, if you talk about "national means within individual states" (as does the recent Swedish intervention (CCD/PV.610) on a possible International Disarmament Organization), you have to be clear as to who is verifying whose adherence to a treaty.

I believe we all have enough confidence in the capacity of national Governments to make sure that international agreements are being adhered to within their own territories, if these Governments wish them to be adhered to.

Or, if a Government should have some difficulty in controlling some dissident or

criminal elements within its territory, who wish to violate an international treaty to which that Government remains a loyal party, I am sure other States or international organizations would then be glad to offer their assistance. This is the kind of problem which, for example, is dealt with by our colleagues who work on international controls against narcotics and other dangerous drugs.

The important thing to remember about verification is that it is a substitute for full trust, and that trust is helped by openness. The more open our societies, and the less we conceal from each other, the greater our mutual trust. Greater openness and less concealment make verification, of course, so much easier; but at the same time they make verification less necessary.

One of the world's most successful disarmament agreements, the Rush-Bagot treaty between my country and Canada, never required a cumbersome array of inspection measures, whether by "national means" or otherwise. Why has this treaty been so successful and enduring? Because our two societies are open toward each other -- there are no minefields, no walls, no barbed wire separating the free competition and exchange of ideas and information between the United States and Canada. That is the reason why this old disarmament agreement has never presented verification problems.

You in this Committee will be unable to do serious, constructive work, moving toward your important goals, unless you keep in mind this fundamental interrelationship between verification, trust, and openness.

CCD/PV.618

pp.6-12

USA/Martin

2.8.73

CW

In considering the question of chemical weapons we have rightly paid a great deal of attention to the question of verification. In our Spring session, the delegation of Sweden put before us an approach with its "Working paper on the concept of amplified verification in relation to the prohibition of chemical weapons" (CCD/395). In my intervention of 17 July I referred to it briefly, and I would like to discuss it at greater length today.

We are grateful for this Swedish contribution because the paper, and the discussion of it by our Swedish colleague in his intervention of 8 March, raise central issues important to consideration of a comprehensive agreement.

A basic issue is whether a system of verification for a comprehensive agreement can, in the words of the penultimate sentence of the working paper, be "reassuring rather than deterring". (The emphasis is mine.) We believe such a distinction is not valid; we agree with the thought that any verification system ought to provide reassurance to the parties that their own observance of the treaty is matched by observance by other parties, but we believe that a State will be reassured as to treaty compliance if it feels that the system of verification will be effective in detecting and thus deterring violations. Reassurance is therefore the product of an effective system of verification which has a significant effect of deterring violations.

We can, of course, agree with the working paper that it is not to be presumed that countries will enter into an arms control agreement with the intention of deceiving others by secretly disregarding the treaty's prohibitions. When countries enter into arms control restraints, it can be presumed that they do so believing that the mutual implementation of these restraints will be in their respective security interests. We do not believe, however, that these presumptions can be the basis for concluding that an effective verification system need not have, as an objective, the deterrence of violations. The reasons for this belief will become clear as my statement proceeds.

The Swedish working paper suggests that verification possibilities can be amplified by monitoring a number of prohibited activities pertaining to a chemical weapons

capability. A chart on page three of the Swedish delegation's working paper, CCD/395, lists, for the purposes of illustration, four activities which might be prohibited and five possible verification methods. These activities are: development, including research and field tests; production; stockpiling and training. Hypothetical probabilities for detecting each of these activities through possible verification methods are assigned. It is suggested that the over-all efficiency of a detection system will increase if several independent methods of verification, each with limited prospects of success, are combined. I hope I have given a fair description of the idea of amplified verification.

We appreciate the spirit in which this idea is put forth, and we agree that verification would to some extent be enhanced or amplified if a range of activities were monitored by various methods. Indeed, in the United States work programme of last year we made a similar point when we stated in section III A of the programme that "comprehensive prohibitions, by covering many aspects of CW activities, would tend to reinforce each other" (CCD/360, p.7). However, we must take issue with some of the basic premises regarding the usefulness of applicability of the amplified verification concept.

The increase in the probability of detecting a violation when several independent verification methods are applied in combination is derived from the theory of probability. In practice, of course, the likelihood that a particular violation will be detected depends on the actual efficiency of each of the individual verification methods. It is stated in the Swedish working paper that the individual values assigned for the possibility of detection are hypothetical. We would emphasize this purely hypothetical nature and question whether any statistical data exist or could be gathered in order to assign any fixed probability at all to the various verification methods. Unless there is some firm, statistical basis for the assignment of the individual probabilities of detection, the formulae of probability serve little purpose.

In this connexion we would note that the original Swedish paper on which CCD/395 is based contains a very pertinent footnote. I quote: "In the formal discussion it is assumed that sufficient experience of the use of a verification method exists so that one can truly speak of the probability of the method rather than of the possibility, which latter concept cannot be treated mathematically." I would submit that such experience does not exist. Indeed, we are still trying to formulate appropriate and effective verification methods in our discussions here. Even if one could derive realistic probabilities for each verification method, we believe these could be significantly reduced by a State wishing to disregard the treaty. I shall be returning to this point later in my discussion.

In introducing the Swedish paper on 8 March, Mr. Eckerberg said:

"The concept of amplified verification is based on the certainty that many different efforts would be involved if a country should wish to engage in building a chemical warfare capability or maintain such a capability."
(CCD/PV.590, p.11)

In assessing the practical value of the idea of amplified verification in connexion with a comprehensive treaty, however, it is necessary to evaluate the other end of the spectrum of possible activities: that is, the extent to which a party desiring to evade such a treaty would find it possible and advantageous to engage in only one or two activities.

To illustrate, I would like first to discuss the possible violation of that portion of a comprehensive agreement that would deal with the elimination of stockpiles. Might a country feel that there was a significant advantage to be gained by retaining a substantial percentage of its stockpile? Any such violation might require no new major effort by the party and might not be revealed until hostilities began. Should hostilities take place between a party which had kept a part of its stockpile and a party which had destroyed all of its stockpiles and facilities for making chemical weapons, it can be

assumed that an important advantage could be gained by the country which had disregarded the agreement.

In another case, the probability of detection of prohibited activities will be directly related to the scale of the activities. Let us for a moment suppose that a comprehensive ban was evaded by the creation or retention of a prohibited CW production facility. The engineering difficulties in establishing a facility are formidable, but not unsolvable. As we pointed out in a working paper last year, such a facility cannot be distinguished from a normal chemical plant by off-site observation. This plant could be constructed to manufacture a proven agent. There would thus be no need for research activity, field tests, or other associated activities. Troop training in offensive aspects would be advantageous, but might not be necessary until shortly before employment. It would be difficult to detect a diversion from peaceful purposes of chemicals sufficient to produce a militarily significant quantity of agent. Thus, if prohibited activities were undertaken on a small scale in some situations, a State could gain a significant military advantage.

Under this analysis, in the first case the likelihood of detecting a significant violation of a comprehensive treaty is reduced to the probability that a single activity will be detected: the retention of stockpiles. There is, therefore, no "amplified verification" resulting from the cumulative possibilities of detection because only one activity is involved. In the second case only a few activities may be involved, rather than the entire spectrum, and they are not likely to result in a detectable departure from ordinary practices.

Mr. Eckerberg also raised a central point regarding the importance which parties might attach to the ability to redress quickly any imbalance resulting from a violation. I should like to quote the relevant passage from his statement:

"It is perhaps not primarily a deterring effect which is needed; it might be more important that other parties to a production ban feel reasonably assured that they will get time to prepare themselves, politically and militarily, against a possible threat." (CCD/PV.590, pp.11-12)

We agree that parties will be seriously concerned if they feel that a violation of an agreement would leave them at a significant military disadvantage that could not be remedied reasonably rapidly. In the cases I have just described, however, it can be seen that there is a possibility that a country could find itself at a significant disadvantage which could not be rapidly countered by creation of a deterrent in kind.

I should now like to return to a point I mentioned earlier regarding the possibility that a State deciding to disregard the treaty could reduce the probability that the violation would be detected. When the Swedish paper discusses the percentage probabilities that a party will be detected in one prohibited activity or another, it seems to view the matter as if we would be participants in a game of chance. Indeed, similar ideas are sometimes expressed under the concept of "game theory".

There is a rather fundamental reason why we believe that statistical methods can have only very limited application in solving our verification problems. In the case of games, the rules remain constant. In the case of comprehensive chemical weapons prohibitions, the odds of detection of any particular activity can be enormously affected by unpredictable and unknown steps which may be taken by a party which decides to disregard the treaty.

Let us take again, as an example, the illustrative monitoring activity listed in the Swedish working paper for stockpiles, that is "finding instructions for handling of chemical munitions". I will leave aside the contradiction of how, under a monitoring system based primarily on reporting by national sources, one would "find" instructions for handling chemical munitions. But, assuming that a party retaining some of its stockpiles wished to maintain some copies of its instructions for handling chemical munitions, can it be known in advance whether it will maintain ten copies or 100? Will extraordi-

narily stringent security measures be imposed on the handling of any such documents? Such conditions are controlled by the party that decides to pursue a violation and will not be known to other parties.

On page two of CCD/395, the Swedish paper states "In a real case, the given 'revealing probabilities' should be evaluated by relevant experts". However, in a "real case", the experts will have no way of knowing what evasive measures will be taken and thus would find it extremely difficult, if not impossible, to evaluate the "revealing probabilities".

I have discussed this point with respect to monitoring stockpiling and production facilities. However, it is obvious that the point has very broad application. The party determined to pursue a violation has a wide choice regarding method and timing. It may be prepared to spend a great deal of money to camouflage signs of activity that might become known. It may decide to engage in a violation gradually. Problems such as these lead to what we think is a fairly safe conclusion. Whatever else might happen in the event a party does decide to evade the treaty, one thing will not happen -- the pattern of activity in pursuing violations will not be the same pattern of activity as that which would exist if a country decided to acquire or maintain a chemical capability in the absence of treaty prohibitions.

In the section of the Swedish working paper entitled "Practical and political implications", an effort is made to demonstrate that withdrawal might be a practical remedy in connexion with a system of amplified verification. This is a significant issue. I will quote the entire passage:

"Should several warnings appear simultaneously, they should certainly, taken together, be sufficient to warrant an investigation, if such a procedure is provided for in the treaty, or to entitle any party to withdraw from the treaty. Since the result of the verification methods would be official and be known by all parties, it would be easy for all other parties to judge the fairness of a withdrawal.

This procedure should therefore be easier to apply in the event that a suspected violator was unwilling to explain the coincidence of several 'warning signs' or vetoed an investigation". (CCD/395, p.5)

As I have indicated earlier, one cannot count on "several warning signs" occurring simultaneously, given the ability of a party disregarding a treaty to manage a violation and to time its implementation. More specifically, in the case of disregard of a comprehensive treaty's requirement to destroy all production facilities or stockpiles, there might be no "warning signs", until the prospect of use of the retained weapons or agents was imminent.

We fully appreciate the intention behind the paragraph just quoted. It recognizes the reasonableness of a withdrawing party wishing to have a convincing case for withdrawal so that the onus for destroying the treaty régime does not fall on the party which feels its security is threatened.

But, we have our doubts about whether the onus would indeed fall where it belongs, that is, on the party engaged in or seriously suspected of wrongdoing rather than the party which fears wrongdoing. Our doubts are not resolved by the comments which Mr. Eckerberg made in his intervention. He said:

"A party deciding to withdraw would face the risk of misjudging the situation and would have to take the corresponding responsibility in the face of public opinion". (PV/590, p.11)

We think this is a realistic assessment. Indeed, evidences of violation may be slender and ambiguous, if they exist at all. Considerable international pressure might well be exerted on the party having doubts that it should swallow them. We do not believe that a verification system should work in this way.

We have questioned the extent of the practical applicability of the concept of amplified verification as described in the Swedish delegation's working paper. We do so with a constructive purpose in mind. We agree, as I said at the outset, with the idea that comprehensive prohibitions, by covering many aspects of CW activities, would tend to reinforce each other. We would also agree with the general point expressed by Ambassador Eckerberg that "In no disarmament field is a completely effective control system possible, if by completely effective we mean an absolute guarantee that every violation will be detected" (CCD/PV.590, p.10).

We believe, however, and I think many would agree, that we are still confronted by many genuine and very complicated verification problems regarding the development of comprehensive chemical weapons prohibitions. We hope for discussion at greater length and detail in the Committee to see if effective verification measures for a comprehensive treaty can be developed.

CCD/PV.621 pp.8-10

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14.8.73

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It seems to us that the Committee is unanimous in thinking that the future agreement would necessitate a control system which would ensure adequate observance of the obligations assumed under the agreement. We firmly believe that any system of control must be organized in such a way that it could in no circumstances be used to violate the sovereignty of any State party to the future agreement, or to intervene in its domestic affairs. Our evaluation of the individual proposals on the organization of a control system must be based on this essential condition.

It would appear that control would extend, in general, to three main groups of chemical substances, namely: (1) chemical substances designed exclusively for military use; (2) chemical substances serving a dual purpose, i.e. military as well as peaceful; and (3) raw materials and intermediate products which are necessary for producing agents for military use, but which, at the same time, are also widely employed for producing various products intended to be used for peaceful purposes.

To take the example of chemical enterprises in the second group only, we cannot imagine how control by an international organ could be carried out in such a way as to avoid disclosing production secrets and trade and other information of a secret nature, let alone the question of patents and other important problems. In our view, the work of an international control organ would conceal within itself a permanent danger and carry a very high degree of risk of violation of the sovereign rights of the State in whose territory such control was exercised. At the same time, some delegations have expressed the view that the international control organ should be vested with wide powers which, in essence, would enable it to take decisions binding on the authorities of individual countries parties to the agreement. The Czechoslovak delegation cannot associate itself with such views, as their adoption might open the way to the international control organ being used for intervening in the domestic affairs of States in violation of their sovereignty.

It is likely that among the future parties to a chemical weapons convention there will be big differences not only in legal systems but also in the sphere of internal administration, as well as profound differences in social structure. This means that there will be differences in the competence of State organs, enterprises and public organizations. The control measures taken by an international control organ in such conditions would be so complicated and diverse that they would require the creation of a vast expensive machinery for their implementation. Furthermore, such control always implies the possibility that powers will be abused or exceeded. It became apparent from discussions in the Committee with the participation of experts that in view of the consider-

able size of the chemical industry and the large number of enterprises, control would in fact mean inspection on an international scale of so many large, medium and small enterprises that it would scarcely be feasible either from the point of view of the time involved or from the point of view of the human and material resources expended.

In the opinion of the Czechoslovak delegation, sufficiently effective control may be secured through national means of control, possibly supplemented by suitable international control procedures. We have already explained our position on this question and I will therefore confine myself to a few additional remarks.

Clearly, in establishing a control system we must start with the following main criteria: adequate effectiveness, observance of the principle of sovereignty, the simplest possible organization, maximum speed in carrying out control functions, and a tolerable level of financial and other material expenditure and of demand on manpower. In our opinion the system proposed by the socialist countries meets all these requirements. The national control agencies could possess all the prerequisites for carrying out effective control. Such control agencies could make suggestions regarding possible changes in the legislation of their countries with a view to achieving the objectives of the convention. They could have accurate information about the specialization of plant, its output, range of products, consumption and nature of imported raw material and also concerning exports of all types of chemical products. They would also have at their disposal all the necessary statistics, which would be regularly brought up to date and which would always show the actual state of production, imports and exports of chemicals. Furthermore, national control agencies could carry out control at a much lower cost and in many countries frequently with the assistance of the existing administrative machinery designed for control functions in various industries, including the chemical and pharmaceutical industries. Under various names in different countries, these agencies carry out checks on the production and distribution of poisons, toxic substances, drugs, etc.

If called upon to participate in control measures under a chemical weapons convention, administrative bodies of this kind could be given special additional training, and they could also make use of certain additional specialized technical facilities.

It would be possible to work out internationally principles for organizing control and implementing control measures, so that national agencies could be standardized. These rules would have to be worked out in broad outline in such a way as to make them strictly functional and so that they could be applied in the conditions peculiar to each individual State. It would be possible to convene at agreed intervals international conferences at which the control agencies of individual States would at their own request exchange experience and information relating to the development of science and technology and to the growing co-operation between countries in this field.

On 31 July 1973, the representative of the Netherlands, Mr. Rosenberg Polak, submitted Working Paper CCD/410. We do not doubt that the submission of this document was prompted by a desire to achieve progress towards the conclusion of a chemical weapons convention. We feel, however, that it does not meet the realities of the present-day situation, since it proposes the establishment of an international organization which would possess rights of control and even the right to conduct an investigation into the actions of a State suspected of infringing the obligations it had assumed under the agreement. In essence this would mean the elevation of such an organ above the organs of the sovereign States parties to the convention, and this in turn would lead to the risk of intervention in the internal affairs of those States, with all its attendant consequences.

Today I intend to discuss the question of chemical weapons. I should like to explain already now that my intervention will consist of three parts. First I shall refer to some of the comments made on 2 August by the representative of the United States, Mr. Martin, on a Swedish working paper on amplified verification (CCD/395). Secondly, I shall discuss a few of the points which a number of delegations have raised this summer commenting on working paper CCD/400, which was presented in April by ten non-aligned members of the Committee. Finally, I shall take up an issue which we consider to be of great importance in relation to a production ban on chemical weapons, i.e. the concept of binary weapons.

Mr. Martin devoted his whole statement of 2 August (CCD/PV.618) to a rather critical analysis of the working paper on amplified verification. Perhaps I should just recall that by this we meant the rather obvious idea that the over-all efficiency of a verification system will increase if several independent methods of verification, each with limited prospects of success, are combined. The scope of that working paper was rather wide, and it was thus possible for our colleague from the United States to advance a number of viewpoints held by his delegation, some of them already well known.

Mr. Martin first quoted the penultimate sentence in our paper, which said that a verification system could be "reassuring rather than deterring". He said that such a distinction was not valid. He explained that reassurance must be the product of a verification system effective enough to deter violations.

Mr. Martin is of course quite right in this, and this is also clearly spelled out in our working paper. In the chapter called "The remaining genuine uncertainty" it says that a party, when entering into a treaty, can abstain from a capability of waging chemical war himself for any of three reasons: (1) he does not wish to have such a capability; (2) he would not need it, since an adversary can be expected to be disclosed at an acceptable level; (3) he would himself suffer the same risk as the adversary of being exposed by the verification system. From this the working paper concludes that "the reassuring effect would come first and thus in itself be sufficient".

I would have thought it was quite clear from this that our paper in no way implied that reassurance is not dependent on a capability for deterrence. What we say is that the reassurance comes first. The primary function of all verification is, as we see it, to build confidence and trust, in other words reassurance. The evidence-gathering will only serve concretely in case there is a judicial procedure. Our reasoning has always been that less than 100 per cent verification effectiveness most often creates sufficient reassurance to enter into an agreement of this kind. When a party decides to enter into the agreement in such a situation, he has obviously accepted this "lower than 100 per cent" effectiveness, and he acknowledges that he feels sufficiently reassured that violations by an adverse party can be detected. This holds for every party who enters into the agreement. Whether the accepted level of efficiency will in effect deter any party from violating the agreement after it has come into force is a different question. This is, of course, also likely to depend on this degree of verification effectiveness. However, I hope I have now succeeded in explaining why we think deterrence capability is secondary to the reassurance, which is needed already when entering into an agreement.

Mr. Martin's second main criticism of working paper CCD/395 is that no statistical data exist for assigning a fixed probability to all the various verification methods. In his view, the formulae of probability which we used serve little purpose unless there is some firm statistical basis for the assignment of individual probabilities of detection. We certainly agree that such a firm basis does not exist in regard to violations which are

not supposed to occur. This is also spelled out in the working paper. We do not agree, however, that this makes the formulae purposeless. Let me explain a little further how we reason on this point.

When we used this theoretical reasoning about probabilities, it was partly in order to introduce a practical application of the concept called "judgemental probabilities". These probabilities were to be applied not for detecting violations of a ban, but for detecting deviations from known, i.e. statistically assessable, peaceful activities, which deviations in their turn might indicate violations. It is true that today we do not have any statistical basis even for these probabilities, but this situation could be improved if we did what Mrs. Myrdal suggested in her statement of 5 July (CCD/PV.610), i.e. started to build up monitoring activities already before a treaty was entered into. Mr. Martin's reasoning on this point confirms our belief that such "pre-treaty monitoring" could serve as an impetus for the emergence of a treaty. A concrete example would be the so-called "detection-club" in regard to underground nuclear tests, which was proposed by Sweden in 1965.

Here I should like to express the support of the Swedish delegation to the view expressed by the Director of the United States Arms Control and Disarmament Agency, Dr. Iklé, when he said on 31 July that greater openness and less concealment makes verification easier and increases the mutual trust (CCD/PV.617).

A third point which Mr. Martin raised was that amplified verification is based to a great extent on the assumption that many different efforts would be involved if a country should wish to engage in building a chemical warfare capability, or maintain such a capability. When I introduced the working paper on 8 March, I used the word "certainty" instead of "assumption", which would have been better. I agree with Mr. Martin that I was wrong in assuming that it was certain that several activities would be involved. He gave us an example of a "one-activity" violation, namely the simple retention of stockpiles. But it really constitutes a "worst-case argument", pointing to a situation which could only in a meaningful way occur in a very limited number of countries. Furthermore, it does not render the concept of amplified verification invalid, and I am sorry that our colleague from the United States did not try to evaluate any of the positive possibilities which this concept offers. Also in a case where only one prohibited activity is taking place, the concept of amplified verification can still be valid, i.e. if several control methods can be applied to that activity.

Though we have appreciate the critical analysis given by Mr. Martin, we would also have welcomed alternative proposals in those cases where he felt they were needed. This is especially so, since we are aware of the considerable work the United States Arms Control and Disarmament Agency has done, and no doubt continues to do, concerning verification matters. I think we all agree that a post-treaty situation may have its problems; in our view they can be made considerably smaller than the pre-treaty problems if we build a verification system on the concept of amplified verification.

In turning to the second part of my intervention, I can point to a concrete illustration of the concept of amplified verification. It was offered in Working Paper CCD/400, even if that working paper naturally dealt with the whole CW issue, not only verification.

Three weeks ago the representative of Yugoslavia, Mr. Cvorovic, made some relevant remarks on the comments concerning CCD/400 which several delegations have made during our summer meetings. Today, I would like to add some views on behalf of the Swedish delegation, limiting myself to verification issues.

On the question of a verification system, the representative of the United States, Mr. Martin, has said that he would expect a system "which provided a sufficiently high probability of detection of a violation in order to deter actions contrary to a ban" (CCD/PV.613, p.13). On the other hand, the representative of Poland, Mr. Natorf, has

said that he did not want a verification system "developed ad absurdum, which would be completely unacceptable for many countries" (CCD/PV.611, p.10). Both these statements are quite general and could probably be subscribed to by everybody. In the opinion of the Swedish delegation, it is impossible to appraise the merits or drawbacks of verification methods unless talking of concrete proposals.

Perhaps this can be illustrated if we take an example, e.g. on-site inspection. An on-site inspection could be made so intrusive, that it is doubtful that any nation would be willing to expose its chemical industry to that kind of scrutiny. On the other hand, it could be so arranged that there would be little probability of detecting a violation. Until we know which verification activities are supposed to take place during an on-site inspection, we cannot judge either its effectiveness or its acceptability.

Mr. Martin in his intervention of 3 July (CCD/PV.609) expressed some thoughts on verification of destruction of stocks. He asked for clarification about the reference, in CCD/400, to international inspection of this activity as a "non-recurrent measure". The Swedish delegation, in Working Paper CCD/322 of 16 March 1971, and later in a statement on 18 July 1972 (CCD/PV.569), has also suggested that some international observations should be provided for in order to verify such destruction operations. The simple answer to Mr. Martin's question is that as the destruction of a certain lot of chemical agents or munitions cannot possibly take place more than once, the inspection of such destruction would also be "a non-recurrent measure". What has been once observed as destroyed, cannot be inspected again.

In our view, the international verification process should, of course, cover the whole phase of the destruction of stocks, until agreed provisions are fulfilled. It would have no connexion with production of chemicals for peaceful purposes and would not lead to the disclosure of any industrial secrets. The apprehension voiced by the representative of the Soviet Union, Mr. Roshchin, in his statement on 12 July (CCD/PV.612), and later by several other delegates, referring to international inspections generally, cannot therefore, as we understand it, be interpreted as alluding to inspection of destruction of stocks. We hope to receive further clarification on this.

Commenting on the international control organ suggested in CCD/400, Mr. Natorf declared that he was against creating "permanent bureaucratized organs, which swell in size with every passing year, and with which it is sometimes difficult to establish co-operation" (CCD/PV.611, p.11). As the Swedish delegation has stated several times, we consider that an international control organ, preferably established as early as possible, will be necessary. Of course, the development visualized by Mr. Natorf must absolutely be avoided. The set-up must be simple and effective and be kept within reasonable dimensions. We are certain that we could achieve this.

Another verification issue concerns the need for international consultations, sometimes called meetings of experts, for solving inter alia the many technical questions which would arise in connexion with a ban on chemical production. There now seems to exist a consensus on this matter, expressed, e.g., in the United States Working Paper CCD/360, in Mr. Martin's intervention on 17 July, in the socialist countries' Working Paper CCD/403, outlined more in detail by Mr. Dugersuren on 26 July, and, of course, also in CCD/400. The Swedish delegation would suggest that this idea, given an existing consensus in principle, is ripe for a concrete decision. Such a measure would constitute no small step towards a treaty.

I have not referred to any of the comments made by various delegations regarding the chapter about "scope" in CCD/400. The Swedish delegation will return at a later date to this central issue, but this will be done in the additional light of another concept, that of binary weapons.

The concept of binary chemical weapons has already been mentioned several times here in the Committee, but its consequences for our deliberations have not yet been

discussed. The fact that binary weapons can be produced now, or in a not-too-distant future, constitutes a technical reality which must be taken fully into account when formulating a treaty prohibiting the development, production and stockpiling of chemical weapons. The Swedish delegation has for some time been studying the possible implications of binary weapons technology for a CW treaty. We plan to return to the matter later with a more comprehensive account. Today I shall limit myself to some general remarks.

The technical background is that the chemical components for binary weapons in themselves are relatively non-toxic and easy to handle. They can therefore be produced in ordinary chemical factories and be stockpiled and transported without special protective arrangements. As the highly toxic chemical warfare agent is formed when these components are mixed -- and this can take place in the warhead on its way towards the target -- there might be little or no time gap between the production of the warfare agent and its use.

The methods used for the dissemination of the agents are mainly the same in all types of chemical weapons. They depend on the type of target, the effect desired, etc. But whatever the agent may be, it may be loaded into grenades, missile warheads, bombs or spray tanks. This also applies to binary weapons, even if it will be necessary to have separate accommodation in the warhead for the components and to have an effective mechanism for mixing them rapidly.

I think it is clear from this short description, that special formulations would be needed in a CW treaty in order to ensure that also binary weapons are covered by the prohibition in regard to their development, testing, production, and stockpiling, as well as the training for their use.

If adequate measures banning binary components are not taken, a violation of a production ban does not have to take place before a violation against the Geneva Protocol. It also means, that if no special provision is made in the treaty, possibilities will be open to attain a chemical warfare capability without violating a ban. Moreover, once a binary technology for production has been developed, even the mere know-how would be sufficient in order to produce in a relatively short time, in ordinary chemical industrial facilities, non-toxic reaction components for the chemical agents, when the need arises.

The binary production technique makes it even more necessary to base a production ban on a purpose criterion. This is so, since some components might be used both for the production of binary warfare agents and for dual-purpose or even exclusively "peaceful" chemicals. The concept of single- and dual-purpose agents could actually be abandoned in the discussion of the scope. It would be relevant only when it comes to detailed methods for verification of a ban on production and stockpiling.

From what I have said it is clear that verification of a prohibition covering binary weapons must be perceived differently for different parties, depending on whether they command binary technology or not. Thus, for the verification of parties who have the knowledge of this technique -- presumably few within a foreseeable future -- it would be important to know whether the armed forces are being trained for offensive chemical warfare. Training of some personnel might be the only prohibited activity such a party has to carry out in order to be able to proceed rapidly to build up a chemical warfare capability. It would also be of value to scrutinize statistics on production and trade in order to detect whether production or stockpiling of binary components, equipment or means of delivery is taking place. Destruction of stocks of components intended for binary chemical weapons would have to be verified in the same way as prescribed in the treaty for "conventional" agents and weapons generally; special declarations as to components for binary weapons would be needed if declarations of stocks are prescribed in the treaty.

It is also clear, especially in view of the binary technique, that if not all equipment and means of delivery for all chemical weapons are prohibited in a treaty, the efficacy of the prohibition and its verification system will be greatly reduced.

I have raised the question of binary chemical weapons, because the Swedish delegation has understood that preparations are under way to acquire a binary chemical weapons technique. We would like to put to the representatives of the United States and the Soviet Union the question whether such developments are taking place in their countries. We turn to them in the first place, because we realize that very advanced knowledge is a prerequisite for this development and that only their active participation could bring it to a halt. We believe that it is necessary for us to have an open debate about the implications of binary technology for a ban on production and stockpiling of chemical weapons. Such a debate can most profitably be held against a background of a real negotiating situation. The Swedish delegation therefore reiterates its appeal to the delegation of the United States to initiate a negotiation on a CW treaty, by presenting to the Committee -- in accordance with the traditional modus operandi of the Committee -- a concrete proposal for such a treaty.

CCD/PV.623

pp.10-15

Japan/Nisibori

16.8.73

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Apart from chemical agents, this working paper envisages a ban on weapons, equipment and means of delivery designed to use such agents, along the same lines as the BW convention.

I now proceed to the activities to be prohibited. As stated in section I, paragraph 4 of the working paper, the treaty would place a comprehensive ban on (a) developing, producing, stockpiling or otherwise acquiring or retaining, and (b) transfer and assistance, encouragement, or inducement in manufacturing or acquiring chemical weapons. In the same manner as in the case of agents, section I, paragraph 3 of the working paper expects that the scope of activities to be excluded temporarily from the ban will be established through the supplementary document. While our delegation's views are stated in section II, paragraph 2 of this working paper, I would emphasize our delegation's view that, in particular, stockpiling be excluded temporarily from a comprehensive ban in consideration of the provisions of verification and of the need to obtain an early conclusion of the treaty. On this point I would recall the statement made on 17 July by the representative of the United States, Mr. Martin, in which he said

"Because of the potential adverse impact on its national security, a State cannot be expected to relinquish its CW deterrent capability (which would, of course, be required under a comprehensive CW ban) unless it is adequately assured that other States have similarly and concurrently relinquished their CW capabilities." (CCD/PV.613, p.13)

Since the verification system suggested by this working paper does not include obligatory inspection, which I will come back to later, it would be precipitate to deny the CW deterrent capability before the effectiveness of the verification system is confirmed after a certain period of operation. Now the fourth sentence of section II, paragraph 9 of the working paper (CCD/400) presented by non-aligned countries states

"A partial solution with respect to the scope of the activities to be prohibited, which would only ban the development and production of chemical weapons, will be particularly discriminatory and will not be acceptable to many countries, especially to those which have abstained from procuring such weapons."

On this sentence, I would point out the statement made on 3 July by Mr. Martin. He said

"...Many countries might find a net advantage in treaty provisions designed to ensure that the situation does not change for the worse", and "No one can guarantee that, under future circumstances and in the absence of treaty prohibitions, the gap might not widen." (CCD/PV.609, p.16)

He also stated that many countries which have not been active in chemical arms competition are less likely to "feel the need to expend the effort and resources to acquire a lethal chemical weapons arsenal", and that a production ban has the "greatest impact on countries which have already produced or may be presently producing chemical weapons." (ibid., p.17)

Further, I would emphasize that the exclusion of stockpiling is only temporary. When the treaty provisions on verification are found to be effective, that is, when it has provided a very high degree of confidence and protection, as Mr. Martin put it, it is logically expected that the destruction of stockpiles and other measures would take place.

I shall now touch upon verification. As shown in section I, paragraph 6 and section III, the working paper expects a flexible function of the verification system by a combination of national and international verification.

As we have found in negotiating other arms-control agreements, there will no doubt be a great obstacle to concluding the CW international agreement so long as we insist upon obligatory on-site inspection. In the case of a CW agreement, furthermore, it should be noted that the chemical industries are so wide-ranging, complicated and diversified that, even if obligatory inspection is enforced, its thorough execution is almost impossible, posing a great problem of cost and effectiveness. It should also be noted that obligatory on-site inspections provide the danger that scientific, industrial and commercial secrets will be disclosed. So we should recognize that insisting on on-site inspection is not necessarily realistic. On the other hand, a verification system is needed which would provide "a sufficiently high probability of detection of a violation in order to deter actions contrary to a ban", as stated by Mr. Martin (CCD/PV.613, p.13). The verification system suggested in this working paper has been designed on the basis of these two considerations, which cannot be ignored.

As explained in section III, paragraph 1 of the working paper, national verification experts, in essence, the execution of all legal and administrative measures needed to ensure the observance of the treaty provisions. In order to render the verification system of the treaty as highly effective as possible, national verification would have to maintain close relations with international verification. For this purpose a provision should be drawn up and inserted which would oblige States parties to co-operate with the international verification organization and include submitting regular reports to the extent that would be necessary for the observance of the obligations assumed under the treaty, as stated in section III, paragraph 1.

As to the body which would conduct national verification, the idea of a national control committee contained in the working paper (CCD/403) of the socialist countries might deserve further study. However, since the national control organ would be entrusted with primary responsibilities of verification, the basic question remains as to

"...whether a national control body could be expected to carry out verification within the territory of its own country that would provide significant reassurance to other parties that the treaty's prohibitions were being complied with fully" (CCD/PV.613, p.16)

as put by Mr. Martin. This question gives further support to my earlier suggestion of temporarily excluding stockpiling from prohibition. Here we may come close to the settlement of the question if we decide to proceed to the destruction of stockpiles after we confirm that the verification system, including the activities of the national verification organ, is working effectively.

Also, while it must be admitted that observance of the treaty cannot be ensured ipso facto from the treaty provisions, it would give at least some psychological effect in ensuring the independence and objectivity of a national verification organ, if such an organ is ever to be established, for the treaty to include a provision which would in effect prohibit the governments of the States parties from intervening in any way in the activities of this organ if they are conducted in accordance with the obligation of the treaty.

As the functions of the international verification organization, I would suggest for consideration (1) analysis and evaluation of the statistics, documents etc. submitted from each State party, (2) request for explanation to a State party in case of a suspected breach of the obligations deriving from the treaty, (3) inspection upon invitation of States parties to the treaty, (4) inquiry upon request for explanation, (5) propositions to States parties on amendments to the supplementary document, and (6) notification to the States parties on the foregoing matters. I would draw attention, inter alia, to inspection, which is a key factor in verification.

While inspection is to be conducted in cases mentioned in section III, paragraph 4 of the working paper, inspection would not be conducted without being invited by States parties to the treaty. It may be called "inspection by co-operation". This idea may have something in common with the idea of "verification by challenge" or "verification by invitation" which Sweden has suggested in the past negotiations on a comprehensive test ban. When Sweden suggested the idea of "verification by challenge", it was objected that one country might well find itself in a position of having to accept inspection constantly. As the verification system described in this working paper provides national verification and request for explanation as a prerequisite to inspection by co-operation, the need for inviting frequent inspections would not arise so long as the system functions effectively.

In addition to function (5): propositions to States parties about possible amendments to the supplementary document, which I mentioned a moment ago, the international verification organization may be assigned with functions other than verification, such as (a) reviewing new chemical substances, (b) deciding on whether a specific chemical substance falls within the scope of prohibition, depending on how the treaty provisions are drawn up, etc. Thus the functions of the international verification organization may come closer to those of the "consultative body" as suggested in the working paper (CCD/360) of the United States. Accordingly the organization might even better be called the "international consultative body".

I proceed now to discuss the structure of the international verification organization. Useful suggestions have so far been made by Sweden and the Netherlands on the question of international verification organs. If difficulties arise in realizing such a far-reaching idea for financial reasons or lack of human resources, we may consider establishing a small-size but functional organ. On this point I would recall the statement made by Mr. Eckerberg on 16 August in which he rightly stated, "The set-up must be simple and effective and be kept within reasonable dimensions. We are certain that we could achieve this." (CCD/PV.622, p.10)

For example, the international verification organization might incorporate (a) a verification committee comprising the countries which are States parties to the treaty and are chosen from this Committee, taking into consideration political and geographical distribution; and (b) the secretariat. The idea of making the verification committee up from members of this Committee originates from the recognition that an important part of chemical agents and the scope of activities is to be excluded on a temporary basis from prohibition, and that further prohibition of these exceptions will have inseparable relations with the operation of the treaty, especially that of the verification provisions. If this idea were adopted, the members of this Committee would be able to engage

directly in verification, and accordingly would be able to confirm whether the verification provisions are effective or not, and would finally be able to decide without vacillating on the time when to proceed to a comprehensive ban of agents and activities.

Section III, paragraph 3 of the working paper expects the treaty to contain provisions on the request for explanation. While the working paper does not refer to lodging complaints with the Security Council, this is based on the judgement that the United Nations Charter allows for such procedures, and that it is doubtful whether such a provision should be made in the treaty.

Lastly, provisions on (1) relations between the international agreement and the Geneva Protocol, (2) consultation and co-operation among States parties, (3) such procedural matters as entry into force and withdrawal, may be drafted in line with the corresponding provisions of the BW treaty. However, the provisions on withdrawal might have to be drafted in such a concrete manner that, in effect, criticisms would not be directed at the time of its withdrawal to the State which is not satisfied after having exhausted all the procedures required by the verification provisions of the treaty.

CCD/PV.624

pp.6-11

USA/Martin

23.8.73

CW

You will recall that in my intervention of 17 July I briefly considered the question of national control bodies as part of a system of verification for a comprehensive CW agreement. I would like to return to the question of national committees today as part of some more general comments on the "Draft Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on Their Destruction" (CCD/361), submitted to the Committee by Bulgaria, the Byelorussian Soviet Socialist Republic, Czechoslovakia, Hungary, Mongolia, Poland, Romania, the Ukrainian Soviet Socialist Republic, and the Union of Soviet Socialist Republics.

Certain points of this draft convention coincide with our own views. We concur, for example, with the idea of Article III of the draft that the transfer of substances or equipment covered by an agreement should be prohibited. We also are in general agreement with the second thought of this article: that any measure on chemical weapons should include an undertaking not to assist, encourage or induce any State, group of States or international organization to engage in activities prohibited to States Parties. We also support fully the principle stated in Article VIII that agreed provisions for a CW agreement should not be interpreted as in any way limiting or detracting from the obligations assumed by Parties to the Geneva Protocol of 1925.

The basic ideas expressed in the two clauses of Article IX of the draft convention likewise coincide with our own views. These concern facilitating co-operation in the exchange of chemical equipment, materials and scientific and technological information for peaceful purposes, and the necessity of implementing any CW agreement in such a way as to avoid hampering the economic or technological development of States Parties. These are important points that should be a part of any CW agreement.

I should like to turn now to the question of the scope of the prohibitions of the draft convention and its related verification measures. The prohibitions of the draft contained in Articles I and II are, as is well known, comprehensive in scope. They provide for the prohibition of agents by a general-purpose criterion: that is, a total ban on "Chemical agents of types and in quantities that have no justification for peaceful purposes", and a similar ban on weapons, equipment, and means of delivery. They also provide for the destruction or diversion to peaceful purposes all stockpiles, weapons, and facilities.

As Committee members are aware, we believe the difficulties in achieving adequate verification for such prohibitions are very great. We have, in this session, discussed

some of those difficulties. We do not have solutions for them, but we continue to hope that, in time, practical new ideas and suggestions for their solution will be developed. Because of the close relationship of these issues to the security concerns of States, we cannot gloss over the genuine problems of verification as we work toward agreement in the field of CW. We note that similar views have been expressed by many members of the Committee, including our colleague Mr. Roshchin. He recently stated that an

"...interest in strict compliance, by all parties to a future agreement, with the obligations to cease the development, production and stockpiling of chemical weapons and to destroy such weapons is quite understandable in view of the importance of this problem and its relevance to the security of all States" (CCD/PV.608, p.15).

In considering the draft convention of the Soviet Union and its allies, we naturally turn from the scope of the prohibitions to the related articles on verification. Article IV provides that a State Party will take the necessary measures to enforce the treaty's prohibitions within its territory, jurisdiction or control. Article V provides for consultation and co-operation among States Parties for problems relating to the convention, including through the framework of the United Nations. Article VI provides a complaint procedure to the United Nations Security Council and for investigation of a complaint by the Council.

Early in this session the sponsors of the draft convention elaborated their ideas in a working paper on ways of implementing control over compliance with the convention (CCD/403). This paper suggested that the basic national control over compliance could be implemented by a national control committee. It further suggested that this committee, the form and functions of which would apparently be determined by the individual State Party, could supervise the destruction of stockpiles of chemical weapons and the closure or conversion to peaceful production of the chemical enterprises which had, before the conclusion of the convention, been engaged in production of means of chemical warfare. These committees would report to the national government on their activities, and their reports might be published for "general information".

This system is essentially self-inspection and as such does not, in our view, provide the effective international verification that is necessary to assure that an agreement would contribute to security and stability. As we all know, the activities of developing, producing and stockpiling chemical weapons have been carried out not at the initiative or under the control of private non-governmental organizations within States, but at the initiative and under the control of governments. We must accordingly view the possible utility and effectiveness of national committees as a means of monitoring not only private industrial and scientific organizations but, far more importantly, of verifying the actions of governmental agencies.

As to verifying governmental or State activity, I raised in an earlier intervention a question regarding the extent to which a national committee could be expected to enjoy complete independence from the government it is to monitor -- that is, its own government; and I also raised a question regarding the degree to which such a committee would have unimpeded access to all relevant facilities within its country, military and civilian. The members of a national committee would presumably be citizens of the State being monitored, and under its jurisdiction and control. It seems unrealistic to us to expect that, in the absence of adequate international verification measures, States could have confidence in treaty compliance as a result of the activities of such a group alone.

The problem of attaining reassurance, with or without national committees, is compounded by a corollary difficulty which we see with the system of verification outlined by the sponsoring States in CCD/361. The delegation of the Soviet Union has stated that

"...each country participating in a future agreement on the prohibition of

chemical weapons will itself determine the forms and methods of national control" (CCD/PV.608).

This would seem to open up the possibility that there might be as many systems of control as there were States Parties. A lack of agreed standards for measures of control and differing ways of implementing control measures could make the consultations provided for in the draft convention very difficult and of limited value.

Varying national systems of control which might range from quite strict to very loose, might also give rise to troublesome misunderstandings, as well as to doubts of States with strict control as to the good faith and the intention to comply with an agreement by States with a loose system of control. If it were decided that national committees could play some role in supporting an international verification system, would it not be worth considering the basic ideas reflected in the suggestions of the delegation of Yugoslavia:

"A uniform procedure for verification measures is required in order to make them effective. Likewise, to have a standardized method of verification it is indispensable in our view that an ad hoc international body of experts of different specialities should elaborate the proposals for the procedure of verification. This international body of experts should also work out a kind of questionnaire which would cover all necessary technical, scientific, economic and other data that would officially and periodically be reported" (CCD/PV.569, p.15).

This brings me to another important point in considering the verification approach in the draft of the Soviet Union and its allies. We note that national control organs have no necessary relationship to any international verification measures or system of control. It is suggested in CCD/403 that the national committees should report to their respective national governments on their activities; that is, that they should report solely to the primary entity which they have been set up to monitor. Thus, even if States felt assured of the independence of national committees from the government they monitored, and if they also felt assured that these committees had the necessary access to information and facilities to properly monitor an agreement, they would still not be likely to feel reassured as to treaty compliance by a system of reporting which required that the information should pass through the government being monitored before it was provided -- if it was provided at all -- to States seeking reassurance.

We note in this connexion that CCD/403 suggests that national legislation "should ... allow for the possibility of publishing (the reports of national committees) for general information" (p.2). Accordingly, even after a report has been provided by a national committee to the government it is monitoring, there would remain only a discretionary possibility of the report being published.

CCD/403 also suggests that a national system of control could be accompanied by voluntary exchanges of information "in the form of discussions of new data obtained by as a result of scientific research on the development of new products for peaceful purposes" (ibid.). We certainly agree that there is value in the international exchange of information, but regret that this suggestion is so extremely limited in scope. There would, of course, be many activities which could usefully be the subject of regular exchanges of specified information and which are equally, if not more directly, related to a treaty's principal prohibitions than the development of new products.

I will not comment today on Articles V and VI of the draft convention, which concern international co-operation and consultation, as well as the question of a complaints procedure. I presented our views on these subjects at some length in my intervention of 17 July (CCD/PV.613, pp.17-21), when discussing the Ten-Delegation Memorandum.

I would like to close by noting that it is the absence in the draft of the Soviet

Union and its allies of any effective international or independent verification procedures that is the crux of our difficulties with it. We have outlined in our earlier interventions this session why we think a State cannot be expected to relinquish its CW deterrent capability (which would, of course, be required under a comprehensive CW ban) unless it is adequately assured that other States have similarly and concurrently relinquished their CW capabilities. We regret that the draft does not come to grips with such problems as providing effective assurance to all parties that others have destroyed or converted CW stockpiles and production facilities. As Dr. Ikle, the Director of the United States Arms Control and Disarmament Agency, said to the Committee on 31 July,

"...it does not make sense to propose verification schemes that presuppose full trust among the Governments that are to be party to a treaty. So-called 'national means' of verification, therefore, must not only be capable of producing the requisite observations or data, but also must be entrusted to the party (or parties) that wish to reassure themselves, and not to the parties about which the reassurance is being sought."
(CCD/PV.617, p.21).

CCD/PV.624 pp.12-17

Netherlands/Rosenberg Polak 23.8.73 VER,CTB

Please allow me to add a few words about verification and especially about the issue of on-site inspection.

The disarmament treaties that have been concluded since the last world war, the Antarctic Treaty being the first and the SALT-I agreements being the latest, deal with verification in many different ways. Generally speaking, the particular form of verification which was agreed upon in each case was determined by two considerations. The first consideration took into account the degree of risk that could result from a specific disarmament measure. The second consideration dealt with monitoring capabilities present or to be required in view of the specific object of the agreement. These two considerations are interrelated, because they both deal with the essential aim of verification: to obtain assurance that, notwithstanding the restriction or limitation to be adopted, national security would not be jeopardized by a significant but unnoticed and therefore unilaterally advantageous breach of the agreement by other parties. One might say that the need for verification is based on suspicion and, if one could forget its emotional connotation, I would be ready to accept this expression, although I would prefer terms like uncertainty or caution. To imply that disarmament should be based on mere trust and confidence is simply not realistic.

On-site inspection is the most stringent and intrusive form of verification and as such the most difficult to agree upon. Its possible necessity has to be weighed carefully in each case, account being taken of the risks involved and the particular object of a certain disarmament measure.

While pleading for all due consideration when the issue of on-site inspection arises, the Netherlands delegation fails to understand the rejection, as a matter of principle, of on-site inspection in relation to any agreement whatever, as seems to be implied in a statement by our colleague from Mongolia. In his intervention of 26 July Mr. Dugersuren stated -- and I am going to quote from the English version -- that

"- ..."The concept of the necessity for on-site inspection which continues to be a serious obstacle to the conclusion of important international agreements on curbing the arms race and on disarmament, is destined to lose ground. For this concept is based on suspicion and ill-will; I would say that it bears the stamp of the 'cold war'". (CCD/PV.616, pp.10-11)

I should like to be allowed to mention here that, at a time when the international

climate was still considerably influenced by the atmosphere of the "cold war", the Soviet Union accepted in principle the concept of on-site inspection even in the context of a ban on underground nuclear tests. A comprehensive test ban treaty might have been concluded ten years ago on that basis if the Soviet Union had not withdrawn from this position. Furthermore, if the statement of the representative of Mongolia holds true, agreements like the Antarctic Treaty, the Outer Space Treaty, the Treaty of Tlatelolco and finally the Non-proliferation Treaty, which all provide for on-site inspection in one way or another, should be rewritten to be divested of the vestiges of the cold war. I assume that it was not the intention of Mr. Dugersuren to propose anything of the kind; but one wonders why the concept of on-site inspection should be held anathema with regard to future disarmament agreements.

In his intervention of 26 July our colleague was specifically speaking about a convention to ban chemical weapons. We are all of us familiar with the position of the socialist countries with regard to the verification of such a ban. In their view, this verification should be restricted to the establishment of national control systems. There are good reasons to believe that we will need such systems to make a CW convention a working enterprise. But, to be frank, such national control systems do not by themselves merit the name of verification, because what they are all about is self-control, an expression used by Mr. Dugersuren himself in the same intervention from which I quoted before. We may here have been misled by the difficulties of interpretation or translation. The word "self-control" has two meanings. When the Netherlands delegation here speaks of "self-control", it does use this word not in the meaning of "restraint", but thinking of what Dr. Kile of the United States Arms Control and Disarmament Agency recently remarked while speaking in this Committee, that one has "to be clear as to who is verifying whose adherence to a treaty" (CCD/PV.617, p.21). It goes without saying that the aim of verification is not to prove one's innocence to oneself but to receive proof or at least adequate assurance of the innocence of the others.

As to the question of chemical disarmament, it has to be recognized that chemical weapons represent a real threat to the security of many nations. In this regard chemical weapons could not be equated with biological weapons, and consequently the verification system to be devised for a CW convention could not be a copy of the rather loose system acceptable in the context of the BW convention. Verification will have to be more strict and to be organized on an international level. The Netherlands delegation has an open mind as to the question of how this should be done in practice; but we fail to see why in this context the concept of on-site inspection should be rejected out of hand. On the contrary, if we look into the nature of a CW convention and realize that its material object is military stockpiles that are easy to hide and chemical production plants of great number and variety, then it seems highly improbable, if not impossible, that we should find ourselves able to dispense with on-site inspection, the only question being how to arrive at a suitable and adequate system with which all of us can agree.

The Netherlands delegation submitted on 31 July a working paper (CCD/410) illustrating the functions which an international organ could fulfil in support of a CW convention. In its intervention of 14 August the delegation of Czechoslovakia commented upon this document, selecting the concept of obligatory on-site inspection for its criticism (CCD/PV.621, pp.8 et seq.). In a way this criticism sounded familiar, but I am still a little puzzled. Czechoslovakia is a party to the Non-proliferation Treaty and last year concluded a safeguards agreement with the International Atomic Energy Agency which provides for international inspection *in loco* in Czechoslovakia. In view of this fact it is difficult to understand why a similar method of verification to be carried out by an international organ under the aegis of a CW convention could or should be labelled as an intervention in the internal affairs of States.

The Czechoslovak delegation also raised objections to the effect that the right of

an international organ to carry out on-site inspections would mean the elevation of such an organ above the organs of sovereign States. This would be a serious objection if such an elevation could be forced upon States, or would be a revolutionary change in international practice. But this is not the case: such an elevation would be neither forced nor revolutionary. I have already mentioned the Non-proliferation Treaty and its related safeguards agreements, which were entered upon by Czechoslovakia and by many other States. I should like to refer also to the Treaty of Tlatelolco (ENDC/186), which in some instances has been used as an example for the suggestions contained in the Netherlands working document. There is no question of infringement of national sovereignty if States, in the free exercise of their sovereignty, agree to allot to some organ certain rights to be exercised on their territory, rights that could eventually be withdrawn if abused.

Generally speaking, if States had to protect the maintenance of absolute sovereignty, most international agreements would be impossible. Even the Charter of the United Nations is incompatible with the concept of undiminished national sovereignty: its Article 25 obliges Member States to accept and carry out the decisions of the Security Council in accordance with the provisions of the Charter. Any disarmament agreement by its very nature represents a restraint on national sovereignty, for instance by limiting the freedom of States to carry out certain nuclear weapon tests, or to place military installations on the moon and other celestial bodies, to accept or permit nuclear weapons on their territory or to acquire or possess nuclear weapons or the control over them, or, taking the BW convention as an example, to develop, produce, stockpile or otherwise acquire microbial or other biological agents or toxins for hostile purposes. To my mind these are more substantial limitations of or restraints on national sovereignty than the right of some inspectors to visit some places or facilities.

Therefore we for our part fail to see the validity of the before-mentioned objections of the delegation of Czechoslovakia, and this in view of the fact that any limitation or obligation can validly be accepted by a State when it is exercising its sovereignty in full freedom.

Turning now to the other main item of our agenda, I will make some short remarks with regard to an underground test-ban treaty. I should like to comment on something said by the representative of Bulgaria on 31 July. Mr. Voutov quoted certain sentences about the CTB-problem from the statement made by the Netherlands State Secretary Dr. Kooijmans on 28 June. Referring also to a Swedish statement, the Bulgarian delegate then concluded as follows:

"All this confirms once again the rightness of the position of the Soviet Union, namely ... that national means of control are sufficient to identify any tests that may be carried out in violation of the test ban."

(CCD/PV.617, p.18)

I should like to point out that the Netherlands is certainly not of the opinion that any -- I repeat any -- tests may be identified by national means. Very small tests, if they cannot be detected at all, could always be carried out under a CTB in a clandestine way. This is also clear in the table annexed to the paper that was informally distributed by the Netherlands at the meeting with experts in July. I hope soon to submit an amended version of this paper as a working document of this Committee. In our view an agreement to ban underground nuclear weapon tests will always contain the risk of some very small explosions going unnoticed, whatever kind of verification would be provided for. This risk will have to be weighed against the risk of major testing programmes being carried out without any restriction. To our mind this is the real problem.

CCD/PV.624 p.20

Poland/Wyzner

23.8.73 CTB

...As a matter of fact, it is my understanding that an example of diplomatic circum-spection came up at a recent session of experts who, commenting on the technical capabilities of seismic detection and identification of underground phenomena, deemed it proper to emphasize the role of political decision. The experts' meeting has served to strengthen the view of my Delegation that, while no system of detection and identification of seismic events can be 100 per cent effective, an underground test ban treaty based upon national means of control -- combined with an appropriate system of international seismic data exchange -- would be entirely acceptable and workable. By the same token, we believe more strongly than ever that the perennial argument about indispensability of on-site inspection has not been established by the experts.

CCD/PV.625 pp.12-15

USA/Martin

28.8.73 CTB

The meetings were especially valuable, in our view, in having helped clarify certain questions concerning the capabilities and limitations of seismology for verification of a comprehensive test ban. While we cannot predict the precise levels or thresholds of detection and identification that can eventually be achieved through long-range seismic networks, there seemed to be broad agreement among the experts that improvements over present capabilities are feasible. Yet there also appeared to be general acceptance of this view that some verification problems, notably certain possibilities of evasion, are beyond the capabilities of such networks.

It is our view that what constitutes adequate verification cannot be defined in simple numerical terms. We could consider a system of verification adequate if, and only if, it would reduce the risks of violation to an acceptable level; and this would require weighing the potential risks of treaty violations against the means available both for deterring violations and for detecting them if they should occur. In this regard the informal meetings can be said to have helped clarify the potential role of a major available means of deterring and detecting treaty violations.

Another useful result of the informal meetings was to demonstrate the interest of numerous delegations in promoting international co-operation for seismic research, the exchange of seismic data, and the further advancement of seismic verification capabilities. As this Committee knows, the Government of the United States has strongly supported these objectives. It is for this reason that we are currently engaged in a programme to install new seismic research stations or upgrade existing ones in several areas of the world in co-operation with numerous interested governments. Bulletins containing seismic data from these installations will be made available once they are in routine operation and a seismic data management system has been developed, which we anticipate may be as early as late 1974, or 1975. This information should materially assist international co-operation in the field of seismology, and hopefully it will be conducive to still other co-operative projects relevant to comprehensive test-ban verification.

Perhaps the greatest utility of our informal meetings lies less in any consensus that may have been reached by the experts on certain issues than in the fact that several important questions were posed for further consideration by this Committee.

One of these questions concerns the existing gap between seismic detection and identification. Because of progress in seismology, it has been suggested that there may no longer be a significant number of events that can be detected and located, but not identified, by seismic means. We do not believe this is correct. We believe that there can and will be events that are detected and located but not identified by seismic

means alone. The suggestion that this is not the case does not, in our view, adequately take into account certain problem areas of seismic monitoring. There can be situations where body waves might be recorded at levels useful for detecting and locating an event with a good degree of accuracy, but where the surface waves useful for identification are masked or hidden by signals from another earthquake. There are also anomalous events which are detected and located accurately but which remain unidentified because of inability to determine their depth and because they are not clearly identifiable as earthquakes by use of the surface-wave to body-wave criterion. It is our conclusion that teleseismic networks would be able to detect but not to identify some events that would be of significance under a comprehensive test ban. This would be particularly true for certain evasion techniques, as we discussed in our working paper CCD/404.

These problems were brought into a clearer perspective during the informal meetings. The experts were able to clarify further the problem of interfering seismic signals and related possibilities of hiding signals from a nuclear explosion in those of earthquakes; and they indicated that it should now be possible to determine more precisely the capabilities of various seismic networks for dealing with this evasion technique. The discussion also increased our understanding of the problem of anomalous events and of possible approaches to its solution. Of particular interest was the suggestion that anomalous events may largely be deep events whose surface-wave signals are attenuated because of their depths of origin, and that it will therefore be important to determine the depths of such events as accurately as possible.

Another question raised at our meetings was whether or not it is possible to learn much more from further nuclear testing. If there is little left to be learnt from testing, the inference may be drawn that the potential risks of violations of a comprehensive test ban are not very serious and also, incidentally, that the arms-control value of a comprehensive test ban would be limited. On the contrary, we believe an effectively-verified comprehensive test ban would be a significant constraint on the further development of nuclear weapons. Although a full discussion of this matter is precluded by security considerations, it is possible to say that further nuclear testing could result in significant nuclear-weapons design improvements, and that even apparently minor design improvements could become significant in the context of a complete nuclear-weapons system.

It has been suggested by the representative of Sweden, Mr. Eckerberg, that discussions of clandestine testing often seem to hinge on the idea that clandestine testing would be the course of affairs to be expected under a comprehensive test ban, and that this assumption, dating from the fifties, should be reconsidered (CCD/PV.614, p.7). While we would of course expect that parties willing to enter into a comprehensive test ban would do so in good faith and with the intention to abide fully by its provisions, the possibility cannot be excluded that pressures might eventually develop on a party or parties to a comprehensive test ban to conduct clandestine tests under future circumstances that cannot be predicted. It is this possibility, and not any preconceptions about the intentions of others, that leads us to believe that we should seek a treaty which is adequately verified and in which parties can therefore have continuing confidence.

Another question arising from the informal meetings concerns the utility of on-site inspections for helping to identify uncertain events, in view of the possibility that the process of arranging and conducting on-site inspections could be complicated and slow. The major visible effects of underground nuclear tests, such as surface cracks or rock slides, tend to persist for an extended period, and any evidence in the form of radioactivity would probably remain detectable in the area of the test for some time. Therefore it would not appear essential for on-site inspection to take place immediately. In any case it should be possible for parties to a comprehensive test ban to work out

provisions that would assure sufficiently prompt inspection after a suspicious event. There could also be a provision for consultations between treaty parties to help classify events and to assure that on-site inspections are conducted in the most efficient and selective manner. Such consultations could not, however, substitute for the deterrence provided by on-site inspections. A potential violator would have greater concern about possible miscalculations in carrying out a clandestine test if he faced the prospect of on-site inspection. These considerations underline our belief that a provision for on-site inspection would add a degree of necessary assurance to a comprehensive test ban.

The possible utility of seismic stations close to events of interest was raised by some participants in the informal meetings. Stations near the event would provide a greater capability than distant stations for determining parameters of seismic events, and would be one of the most effective means for limiting violation opportunities. It is a very complicated question, however, to what extent such stations would allow a reduction in the necessary number of on-site inspections.

I began by reaffirming United States support for a comprehensive test ban as an important arms-control objective. I would like to conclude by stating again that the United States is prepared to give up whatever advantages might exist in continuing testing if this is done pursuant to an adequately-verified treaty, so that we could have reasonable confidence that other parties to the treaty have given up the same advantages.

CCD/PV.627 p.15

USSR/Roshchin

16.4.74 CTB

The Soviet Union favours the cessation of nuclear weapon tests, including underground tests, everywhere and by all. It therefore insists on the conclusion of an international agreement on the cessation of all nuclear-weapon tests. For the purpose of verification of the fulfilment of obligations assumed by the parties to the agreement, national means of detection and identification should be used. An additional guarantee of compliance with the agreement could be provided by international co-operation of the parties in an exchange of seismic data. The Soviet Union is prepared to participate in such co-operation on certain conditions, on the footing that it would form part of the agreement on the cessation of nuclear-weapon tests everywhere and by all.

The United States, by insisting on the requirement of compulsory inspection as a form of control over the cessation of nuclear-weapon tests, is actually obstructing progress in the negotiations on this problem. It is necessary that the United States should display a constructive approach to the consideration and solution of the problem of cessation of all such tests.

Of course, the solution of this problem cannot be based on violation of the principle of equal security of States. It should give no State unilateral military advantages to the detriment of the security of other States parties to the agreement on this subject.

CCD/PV.630 pp.17-18

Pakistan/Naik

25.4.74 CTB

In resolution 3078 B (XXVIII), the General Assembly "vigorously" urged the members of the Committee, and especially those which are nuclear-weapon States and parties to the Moscow Test Ban Treaty, immediately to start negotiations for elaborating a treaty designed to achieve the objectives of a comprehensive test ban. The same resolution requests the Committee to continue, as a matter of "highest priority", its deliberations on this treaty and to submit to the General Assembly at its twenty-ninth session "a special report on its deliberations on this vitally important matter". This is yet another resolution in a long series of resolutions adopted every year by the General Assembly

since 1958 on the urgent need for suspension of nuclear tests. Despite extensive debates, numerous specific proposals and technical appraisals by the experts, a comprehensive test ban is not yet in sight. The main reason for the lack of progress in this area, as we all know, is disagreement on the question of verification. Insistence, on one side, that the national means of detection are adequate and, on the other, that on-site inspection is essential does not permit an agreement on this question to be concluded. There has been no dearth of interesting and constructive proposals to resolve this deadlock. The delegation of Pakistan shares the view that, taking into account the present state of technology, on-site inspection is no longer a sine qua non for a viable system of verification for the prohibition of underground nuclear tests. Seismological methods, together with observation by satellites and measurement of vented radioactivity, provide a sufficient substitute for on-site inspection.

All things considered, it seems to our delegation, and, if I may be permitted to add, the United States Senate hearings have also shown, that the obstacles to a comprehensive test ban are political rather than technical. Both the United States and the Soviet Union could detect virtually all tests down to ten kilotons with their own verification systems, and these could be developed to detect most tests in the five-kiloton range. In other words, to put it rather frankly, militarily effective cheating on a unilaterally verified test ban would be virtually impossible, since a series of tests would be necessary to develop a reliable new warhead and concealment through decoupling, i.e. muffling the seismic signal of a test by carrying it out in an underground cavern, would not be possible for a test series.

CCD/PV.634

p.9

Mongolia/Dugersuren

9.5.74

CTB

....Of great importance is the problem of reaching agreement on a comprehensive ban on nuclear weapon tests everywhere and by everyone. The talks on this subject have so far been unsuccessful because of the negative positions of the western Powers, which continue to insist on "on-site" inspection as a decisive element of control over the cessation of nuclear weapon tests.

We still maintain that national means of detection and identification, supplemented by an appropriate form of international co-operation for the exchange of seismological data, can ensure sufficiently effective control over the implementation of an agreement on the prohibition of underground nuclear tests. There is ever increasing support for the position of the socialist countries and of many other States which consider that for achieving agreement on a comprehensive nuclear test ban the main factor is the political will of the interested parties.

Our delegation cannot let pass without comment the remarks made by certain representatives of the western Powers who have tried to make out that the countries which for well-founded reasons object to on-site inspection are blocking the talks on this question and on some disarmament problems in general. In so doing, these representatives tend to confuse the concept of effective control with on-site inspection. Frankly speaking, in some cases I gained the impression that this was being done deliberately. No one in our Committee opposes, or has ever opposed, effective verification. That would not be in anyone's interest. I should like to emphasize at this point that effective verification is not equivalent to on-site inspection.

We agree with the view expressed here that in the present state of technological development on-site inspection does not constitute a sine qua non for an adequate system of verification as regards the prohibition of underground nuclear tests.

CCD/PV.635 p.15

Poland/Wyzner

14.5.74

CW

Since the destruction of the existing stocks of chemical weapons, even those based on the most lethal organophosphorus compounds -- no doubt a difficult and involved problem -- is to take place, according to the Japanese proposal, already at the first stage, despite and irrespective of the lack of an effective verification system, since, furthermore, other partial steps depend on the availability of such an effective verification system -- then the legitimate question to ask is -- what is to be the subject of agreement or agreements to be concluded at the later stage or stages?

There are two groups of lethal weapons left in fact. The first one, based on toxic agents known and used in the First World War, in conditions of trench warfare with little if any protection, is of negligible significance on today's battlefield with the available protective measures. It would seem, therefore, that a ban on these agents should call for less stringent verification measures than is the case with organophosphorus-compound weapons. The second group consists of the highly toxic binary weapons based on low-toxicity compounds. It will be recalled in this connexion that the working paper CCD/413, submitted to the Committee by Mr. Barton, the representative of Canada, last year, and referred to by Mr. Nisibori on 30 April as a suitable subject for experts' examination, asserted that at least one component of binary weapons must have toxicity well above the accepted threshold. If this component is known to have civilian applications, then -- according to the Canadian working document -- neither its production nor stockpiling could be prohibited. The only prohibited activity as we understand it would be the manufacture of binary ammunition.

CCD/PV.635 pp.20-21

Czechoslovakia/Vejvoda

14.5.74

CTB

The preceding discussion in the Committee has shown that the delegations stand for an expeditious solution of the question of discontinuing nuclear tests. It can hardly be regarded as a matter of coincidence that many delegations share the opinion that both the political and also all technical aspects of the given problem have been discussed thoroughly and in all respects in the Committee and that the Committee has the task of proceeding to matter-of-fact discussions which would make it possible to work out a concrete agreement. However, the Committee will be able to fulfil this aim only on the assumption that the respective nuclear Powers will show sufficient goodwill and that they will accept a political decision for the banning of all nuclear tests without exception. So far we have unfortunately witnessed a curious phenomenon: in the course of time, ever more convincing materials and proofs have been accumulating that, for example, the fulfilment of an agreement on the banning of underground tests of nuclear weapons can effectively be verified by national means, which, in addition, could be supplemented with suitable procedures of an international character, such as an international exchange of seismographic information, consultations, etc. Such convincing materials have accumulated to such an extent that it is no longer necessary to refer to any of them separately. Up to this point it is a logical and natural phenomenon. Certainly, the development of world science and technology has in recent times made such considerable progress -- including progress in the field of seismography -- that outstanding experts from western countries in the mentioned sphere are beginning to have mostly the opinion that for effective verification no on-site inspections are necessary.

Here, however, begins the curiosity or, more precisely, the illogicality of the mentioned phenomenon. The respective delegations instead of drawing the proper conclusions and adapting their standpoint to the present situation persist in their scientifically mastered demand that on-site verification of the ban on underground nuclear tests

should be made and they even go so far as to accuse the States which take the present situation into consideration of allegedly not being willing to proceed to the solution of the given problem. As was rightly pointed out by the representative of Pakistan at the 630th meeting of the Committee on 28 April, "taking into account the present state of technology, on-site inspection is no longer a sine qua non for a viable system of verification for the prohibition of underground nuclear tests" (CCD/PV.630, p.18). In this connexion it is appropriate to recall the words of the Netherlands State Secretary for Foreign Affairs, Dr. P.H. Kooijmans, at the 608th meeting of our Committee that "in our opinion, obligatory on-site inspections do not enhance the deterrence of violation any more" (CCD/PV.608, p.10).

This confirms the fact that the question of control is merely a pretext to hide, and make excuses for, the unwillingness of some nuclear Powers to accede to the ban on all nuclear tests. As long as these States are not able to reconsider their position, the Committee will not be able to reach some considerable progress in its discussions about that question and to attain real results.

CCD/PV.638 pp.9-10

Canada/Barton

23.5.74

CW

....States which see a potential CW threat to their security must be given firm assurance of compliance if they are to be expected to enter into a treaty banning the retention of retaliatory capacities. As chemical weapons are of real military concern to these States, they will require a reliable form of verification to give them this assurance. Analogous concerns have been met in various ways in existing arms control agreements: the 1972 Agreement on Strategic Arms Limitations recognizes national technical means of verification; the NPT provides for an elaborate system of international safeguards with intrusive inspection. In the case of CW, technology has not provided national means of remotely identifying CW production or stockpiles; in addition, practical and economic assurance that a CW ban is being respected. Nonetheless, the acceptance by States of the principle of mandatory international inspection would be a major indicator of their intention to comply fully with such a treaty.

It is in the context of these considerations that my delegation has been examining the documentation now before us in the CCD. In our view the draft Treaty put forward by the socialist countries and the paper submitted by the 12 Non-Aligned Nations have not resolved the question of how to achieve adequate verification or other means of reassuring States of compliance with a comprehensive ban. The Japanese draft Treaty contains one essential element of verification and a possible general approach. The essential element is the international on-site verification of destruction of declared stocks. It is our view that such verification is technically feasible and would involve the most minimal political or commercial intrusion in that the destruction of stocks could be carried out in places of a State's own choosing and no military or commercial secrets need be exposed; we think such a measure should be acceptable to all Governments. The possible general approach which is in the Japanese draft Treaty and which has often been discussed in this Committee is that of verification by challenge. We recognize that this approach is designed to meet the difficult political restrictions imposed on the Committee's search for a solution but it nevertheless has the demerit of placing the onus on the challenger. We doubt that such an approach, even combined with the verification of the destruction of declared stocks, would provide sufficient assurances at this time to attract States perceiving a CW threat to adhere to a comprehensive ban. For this reason we think it is appropriate that the Japanese draft Treaty has put forward these verification proposals in the context of a phased approach to our problem. We believe that it should be our intention to seek a comprehensive ban, but at this juncture

we may best approach that goal by taking partial measures. The Japanese draft, with its concept of a phased approach, points to routes whereby we may yet attain our objective. We shall seek to explore those routes on the resumption of our Committee's work in July.

CCD/PV.638 p.26

USA/Martin

23.5.74

CW

....I think we can all agree that the most significant development in our discussions has been the tabling by the delegation of Japan of a draft convention on the prohibition of chemical weapons (CCD/420). My Government will give the draft treaty serious study. Meanwhile, I should like to make a few preliminary remarks about the draft.

My delegation welcomes the Japanese initiative as a constructive step forward toward our common objective of achieving effective restraints on chemical weapons. Like the working paper tabled last August (CCD/413), the draft convention represents a commendable effort to accommodate many of the diverse views expressed by members of the Committee. We are hopeful that the thoughtful treatment in the draft of several key issues which must be addressed in any chemical weapons limitations will enable us in the months ahead to proceed with our further deliberations on a more concrete basis.

We have noted with particular interest the provisions of the draft treaty dealing with verification. Although the specific features of the proposed verification system naturally raise questions which must be explored further, we believe these provisions of the draft treaty could point the Committee's consideration of verification issues in a promising direction. We look forward to hearing the views of other delegations on such questions as the functions and composition of an international verification agency and the procedures of international consultation and inspection.

The basic approach of the Japanese proposal, it seems to us, is to set forth, as an obligation in principle, the ultimate objective of our efforts -- namely, the effective prohibition of the development, production, and stockpiling of all chemical weapons -- while taking practical transitional steps toward that objective. In his statement introducing the draft convention, the representative of Japan, Mr. Nisibori, remarked that "it would not be realistic to expect that a comprehensive ban can be achieved from the outset." In discussing article IV of the draft treaty, he noted further that parties may take certain provisional measures -- that is, accept only partial restrictions -- until further agreements, including agreements on effective verification measures, are reached. The gradual approach adopted in the draft treaty is thus consistent with one of the principles which my delegation has strongly endorsed, namely, that the scope of chemical weapons limitations should be related to the possibilities for effective verification.

CCD/PV.641 pp.11-12

UK/Ennals

9.7.74

CW

The United Kingdom Government also welcome the announcement at last week's Moscow summit that the United States and the Soviet Union have agreed to consider a joint initiative in this Committee with respect to the conclusion, as a first step, of an international convention dealing with lethal chemical weapons (CW). We hope that this declaration of intent, together with the Japanese draft convention which is already before us, will lead to new movement in the difficult negotiations on CW. We have often stated our position on this topic. We want, and are committed to seek, effective measures for a comprehensive prohibition of chemical weapons and for the destruction of existing stockpiles. We have also said that we are prepared to consider partial

measures.

However, chemical weapons are of considerable military importance. A State which possess them would have a potential military advantage over a State which did not. Any State which commits itself to renounce CW under an international agreement must be satisfied that other States would not be able to contravene that agreement. A comprehensive prohibition which did not cater for the need of signatories to be assured of other States' compliance would bring risks of military instability and might have results of the utmost gravity.

It is against this appraisal that we have studied the proposals put forward by the Japanese Government for a comprehensive prohibition of CW. I am glad to say that its draft contains much with which my Government can agree. Our Japanese colleagues are to be congratulated not only on their courage in bringing new ideas to chemical disarmament, but also on the ingenuity with which they have sought to find common ground on the major obstacle of verification. Whether their attempt will succeed will perhaps become clearer as our debate here continues. We believe that the establishment of an international verification agency, with an independent standing and the right to initiate a number of significant actions, is an interesting idea which needs developing further.

We also believe that the suggested complaints procedure includes some useful provisions. By putting the onus of rejecting inspection on to the State accused of contravening the Treaty, prohibited activities would be discouraged and a State which cheated might be gravely embarrassed. However, a falsely-accused State would have nothing to fear from this procedure, for by inviting an inspection it could prove its innocence.

On the details of the suggested complaints procedure, therefore, we have little to criticize. However, I hope that my Japanese colleague will understand me when I say that, whereas his draft comprehensive convention tackles constructively the problem of what the international community should do once a breach of the convention has been detected, it does not, as it stands, show how the early detection of any suspected breach would take place.

This brings us back to the problem of the verification of a comprehensive prohibition, which has caused such difficulties in the past. I do not think that my Japanese colleague will be disheartened by what I have said. We all noted his wise words at the meeting of the Committee on 18 April (CCD/PV.628, p.8) that it is essential in negotiations on disarmament to seek measures to assure the fulfilment of agreements. Our aim is the same. But it would be wrong to underestimate the very real difficulties involved or to believe that they can somehow be smoothed over or talked away. They are difficulties of substance based not only on an assessment of State interest, but also on a judgement of what is the best way to ensure peace and stability.

CCD/PV.642 pp.14-15

USSR/Roshchin

11.7.74 TTBT,CTB

One of the important questions discussed in the Committee on Disarmament is the problem of the cessation everywhere and by all of nuclear tests, including underground explosions. Having noted the historic significance of the Moscow Treaty of 1963 on the partial banning of nuclear-weapon tests, the joint Soviet-United States communiqué emphasizes the necessity of making the cessation of nuclear-weapon tests comprehensive. As a result of the Soviet-United States meeting an important contribution has been made to solution of the problem of the comprehensive prohibition of nuclear-weapon tests. This contribution has been made by the conclusion of a Treaty on the limitation of underground nuclear-weapon tests providing for the complete cessation, starting from 31 March 1976, of the tests of such weapons above a yield of 150 kilotons. The participants in the Treaty also agreed to confine their other underground nuclear-weapon tests

to a minimum and to continue negotiations with a view to solving the problem of the cessation of all underground nuclear tests.

Verification of compliance with the Treaty will be carried out by national technical means. In order to ensure such verification, a special Protocol to the Treaty was concluded. The Protocol provides for an exchange of data on the geographic co-ordinates of the boundaries of test sites and testing areas therein, information on the geology of such testing areas, the geographic co-ordinates of underground nuclear-weapon tests after they have been conducted, and a range of data for calibration of the tests.

The provisions of the Soviet-United States Treaty do not extend to underground nuclear explosions carried out for peaceful purposes. Such explosions will be governed by an agreement which is to be negotiated and concluded by the parties as early as possible.

CCD/PV.643 pp.9-12

Japan/Nisibori

16.7.74

CW

I associate myself with these remarks, which emphasize the extreme importance of deciding the scope of the substances to be prohibited from the beginning. At the same time I would point out that the scope of those to be prohibited from the beginning is to be decided upon depending on whether effective verification measures can be found for the substances which are about to be prohibited. On this point I would recall the statement made on 16 May by Mr. Di Bernardo of Italy, in which he rightly observed: "Obviously, the scope of the treaty will not depend solely on an abstract political will of States. It will depend in fact on the treaty provisions for effective controls" (CCD/PV.636, p.15).

Thus discovering for which substances effective verification measures can be found for prohibition under the present circumstances is the key to deciding the scope of substances which are to be prohibited first; and this is the point on which I hope the meetings with the participation of experts to be held from tomorrow will produce useful results. Based on the opinion of our experts, I suggested on 30 April that super-toxic organophosphorus compounds and also, depending on agreement among us, mustard-type agents should be included among those to be prohibited from the outset. However, we did not specify these agents in our draft convention, as we thought that we might include in the ban further agents on which experts from various countries may find effective verification measures.

Next, Mrs. Thorsson of Sweden pointed out on 14 May that the "chemical agents" mentioned in Article I of our draft "could perhaps be interpreted as covering also other chemical agents than potential chemical warfare agents, like powder, propellants, smoke, napalm, etc." (CCD/PV.635, p.9). Our intention on this point was that the "chemical agents" mentioned in Article I should be interpreted to mean "asphyxiating, poisonous or other gases, and ... all analogous liquids, materials or devices" as specified in the Geneva Protocol of 1925, and accordingly powder, propellants, smoke, napalm, etc. were not intended to become the object of prohibition.

Now, Mr. Wyzner of Poland pointed out on 14 May that, according to the Japanese draft, the destruction of the existing stocks is to take place at the first stage "despite and irrespective of the lack of an effective verification system" whereas "other partial steps depend on the availability of such an effective verification system", and asked "what is to be the subject of agreement or agreements to be concluded at the later stage or stages?" (CCD/PV.635, p.15). This question is closely related to the statement made on 23 May by Mr. Martin of the United States in which he said, "We will be interested in learning, when the representative of Japan returns to this subject in the

future, whether the draft treaty envisages negotiation of further agreements, including those on effective verification measures, for the destruction of stockpiles as well as for the reduction of the list of exempted agents" (CCD/PV.638, p.27). The answer to Mr. Martin's question is Yes; and while I feel that with this answer I have also replied to Mr. Wyzner's question, I would like to offer some supplementary explanations.

Confirmation of the destruction of stockpiles logically requires effective verification measures, and there has been no change in our position of placing importance on this subject. Nevertheless, we have taken into consideration the strong assertion, as shown in the working paper submitted by the non-aligned countries (CCD/400), that stockpiling should be prohibited from the outset, and we have subsequently included the provisions on the destruction of stockpiles. Furthermore, the possible danger of violation would be reduced considerably if an agreement could be reached requiring the States Parties to submit a report concerning information on the prohibited chemical agents which they possess and concerning programmes on the destruction or diversion to peaceful purposes of such agents, and also if, on the basis of this report, the destruction or diversion to peaceful purposes is to take place under international observation as provided for in Article II.

However, I recognize that, in taking further steps for a comprehensive ban, it will become increasingly important to ensure effective verification measures for confirming the destruction of stockpiles while endeavouring at the same time to reduce the scope of chemical agents exempted from the ban, and that the solution of this question would assume ever greater importance as the scope of prohibition is expanded.

I wish now to touch upon the items to be discussed at the experts' meetings to be held from 17 July, and also upon their significance. In our efforts to ban chemical weapons, it is essential to obtain agreement on an effective verification system which would prevent violation of the obligation. In his statement on 9 July the Right Honourable David Ennals, Minister of State of the United Kingdom, referred to our draft in a sympathetic manner but pointed out that, whereas the draft convention "tackles constructively the problem of what the international community should do once a breach of the convention has been detected, it does not, as it stands, show how the early detection of any suspected breach would take place" (CCD/PV.641, p.12). Certainly, if a mechanism can be devised so that it may detect at an early stage violations of the obligations of the convention with considerable certainty, then it would logically deter violations of obligations.

The question, then, lies in such a mechanism, or the content of the verification system. Accordingly I would suggest that we discuss at the meetings the degree of the effectiveness of various verification measures and, based on the results obtained, examine the scope of agents which can be prohibited. I am convinced that, if agreement is reached among experts on these points, we shall have passed an important milestone toward a comprehensive ban on chemical weapons.

CCD/PV.643 pp.15-16

USA/Martin

16.7.74 TTBT

The Treaty signed at Moscow prohibits underground testing above a threshold yield of 150 kilotons, effective 31 March 1976. We believe that this limitation will have a significant moderating effect on the United States-Soviet nuclear arms competition. It will help to preclude the development by both sides of new generations of high-yield warhead designs compatible with modern delivery systems. Because of the complex technology involved, such warheads cannot with confidence be put into weapons stockpiles without testing. The effective date of the limitation will permit further detailed discussions with respect to the requirements for verifying compliance with the Treaty, and it

will also permit negotiation of an agreement to regulate nuclear explosions for peaceful purposes, subjects I will discuss in more detail in a moment.

The Treaty also declares the intention of both Parties to negotiate with a view toward achieving a solution to the problem of the cessation of all underground nuclear weapons tests. This provision, together with the preambular paragraph recalling the commitment undertaken by Parties to the limited test-ban Treaty of 1963, reaffirms our commitment to an adequately-verified comprehensive test ban.

The Treaty and its Protocol provide for verification by national technical means, supplemented by the reciprocal exchange of data regarding the location and detailed geological characteristics of weapons test areas. For calibration purposes, the exchange of data on the yields of two tests conducted in each geophysically distinct test area is provided for. This will give each Party sufficient confidence in its ability to verify compliance by the other, and, by so doing, will further build mutual confidence and trust.

The Treaty provides that nuclear explosions for peaceful purposes will be covered by a separate agreement, to be negotiated and concluded by the Parties as soon as possible. Conclusion of this Agreement is integrally related to the purpose of the Treaty, namely to prevent military testing at yields greater than 150 kilotons. The treatment of peaceful nuclear explosions in the Treaty and its Protocol is, of course, fully consistent with the provisions of the Non-Proliferation Treaty.

Both Parties recognize the importance of verifying that any nuclear explosions for peaceful purposes do not serve weapons development. They have already reached an understanding in principle on some of the requirements for adequately verifying that any PNEs are not weapon tests, including prior notification, precise definition of time and place, and the presence of observers. It will, of course, be necessary to work out additional verification measures. It should be emphasized that the PNE Agreement referred to in the present Treaty and Protocol between two nuclear-weapon States would not be applicable to the problem posed by the development of nuclear explosive capability by a non-nuclear weapon State. It is clearly impossible for a non-nuclear weapon State to develop a capability to conduct nuclear explosions for peaceful purposes without, in the process, acquiring a device which could be used as a nuclear weapon.

The duration of the Treaty is set at five years, subject to automatic renewal unless an agreement further implementing the objective of complete cessation of underground nuclear weapon tests has been achieved, or unless either Party notifies the other of its decision to terminate the Treaty. The Treaty also provides for consultation, possible amendment, withdrawal, and registration of the Treaty pursuant to Article 102 of the United Nations Charter.

CCD/PV.643 pp.19-20

Canada/Rowe

16.7.74 CW

Article II para. 3 of the Japanese draft calls for international inspection of the destruction of declared stocks. This would be an essential element in verifying adherence to the first phase of an agreement of this sort, and further research will be required to ensure that it can be satisfactorily done. Members of this committee are well aware that the Canadian delegation has not yet been convinced that a comprehensive prohibition of CW could be adequately verified through a challenge system such as is proposed in CCD/420. Nevertheless, we are of the view that an interim ban which would halt the spread of CW and the development of new technology in the field for a certain period could in fact be adequately verified in this manner, bearing in mind that the CW States would retain sufficient stocks to maintain a deterrent capability and thus satisfy their security requirements in that period when mutual confidence could be

promoted. There could be no expectation that States would automatically proceed to a further stage of destruction of stocks unless that mutual confidence was felt. The degree to which progress had been made in verification techniques in respect of the agreement or in arms control generally would no doubt contribute to that mutual confidence.

Some States having limited chemical capacity may question whether such a phased prohibition, which allows for the retention of stocks in diminishing amounts by a few States, would be beneficial when the objective has been a comprehensive treaty. My delegation would suggest that it would be, for the simple reason that a phased agreement may well have a greater chance of early universal acceptance than a comprehensive treaty which fails to provide for effective verification. In other words, we should at this point negotiate on the basis of what seems attainable now, while still working toward our ultimate goal. We would have required the CW States to halt the production and development of CW and to dispose progressively of their stocks, while at the same time giving encouragement to non-CW States to refrain from acquiring such weapons. At the end of the first phase of destruction of stocks, there would be a general review of the treaty and its implementation. This review would have as its primary objective the confirmation of the destruction of stocks and the negotiation of the next phase of this process. Should a State conclude at that time that the obligation on the CW States progressively to destroy stocks was not being adequately met and that its supreme interests were thus placed in jeopardy, it might then decide to withdraw from the treaty under the provisions of Article XVIII, para. 2. Such an action would be one of last resort, and would only be taken after the considerations of the security interests of all parties and after all avenues of negotiation had been exhausted.

I would not now wish to consider in a detailed manner all aspects of the proposals made in CCD/420 with regard to verification procedures. The paper sets out most of the fundamental elements of a system of "verification by challenge", but is substantially lacking in the sort of detail that would permit such a system to be applied, even if it were found by States to be acceptable in verifying a comprehensive treaty. However, as the naming of some international verification body would be required to implement even the first phase of a phased agreement such as I have suggested, it seems to my delegation essential that any treaty spell out the nature of that body and the financial arrangements being made for it.

Under the provisions of the Japanese draft, negotiation of a second international agreement creating an international verification authority would likely be required to provide the inspection element of the basic treaty. Governments may wish to ask whether this is the wisest course or whether the CW convention should deal with this matter itself. Governments may also wish to consider whether the international community wants to encourage the proliferation of international bodies or whether some existing agency could satisfactorily assume these responsibilities. These matters must be dealt with as we move toward a treaty.

CCD/PV.647 pp.9, 11-14

Sweden/Thorsson

30.7.74 TTBT,CTB

As we assess the capabilities of seismology, the threshold could from the identification point of view have been put considerably lower than 150, indeed below ten kilotons. That would have been a very different -- quite significant -- threshold treaty. As it is, there must be some other explanation than the verification issue of the selection of the very high threshold of 150 kilotons. What influence will in fact the bilateral threshold test ban have on the future of nuclear weaponry?

The comprehensive test ban remains the priority item on the agenda of our Committee. Will, then, the threshold test ban make the comprehensive test ban easier to attain? We hope so, but we can see arguments both for and against. It can be feared that the parties will regard this as a convenient closure of the test-ban issue, despite the undertaking to treat the threshold test ban as a first step towards a comprehensive test ban. On the other hand, the detailed control co-operation foreseen in the threshold test ban could well generate so much understanding and trust that at least the control issue in connexion with a comprehensive test ban could be set aside by the super-Powers. Sweden will continue to contribute political, scientific and technical efforts to this end.

The control arrangements foreseen in the threshold test ban itself and the Protocol to it are, in other words, an important aspect of the agreement. The first task for the parties will be to identify explosions, the next to monitor the location and strength of the explosions, in order to verify that they are inside the test sites and below the 150-kiloton threshold. The two Powers have agreed to assist each other in solving the special problems in regard to the threshold by exchanging information on the location and geophysical characteristics of the military test sites and the explosions, including explosions for calibration.

Other States would also be interested in monitoring the explosions and the adherence to the yield threshold. They would probably wish to contribute their measurements to the observations made by the two parties. Contributions from many widespread observatories would indeed assist this task materially. On the other hand, access to the particulars about the test sites and the shot data will be essential for their proper interpretation of the events. It would therefore be both politically and technically appropriate to make data on test sites and explosion data available to other governments and to pool all observations on the events. It is not clear from the threshold test ban and its Protocol whether this is intended or not. The Swedish delegation would welcome a statement by the co-Chairmen on this point.

The two Powers will also have to distinguish between earthquakes and explosions on each other's territory. Under the threshold test ban the identification problems are somewhat modified by the confinement of military tests to designated test sites, whereas explosions for peaceful purposes are to be conducted outside these sites. If the test sites are placed in non-seismic areas the identification problem there will be quite small; but outside these areas it will remain necessary to distinguish between earthquakes and explosions. In particular the parties will have to deal with the many earthquakes in seismic areas.

All this should be another good reason for them to take advantage of an international pooling of seismometric observations. This is indeed the occasion to institute the international data exchange advocated for many years by the Swedish delegation, for the first time in 1965 (ENDC/154). The idea has been supported by a number of States; we have also noted that the representative of the Soviet Union has repeatedly declared that his Government would be ready to join in and contribute to such a data exchange in the event of an underground test ban.

The parties will also have to find out whether explosions outside the test sites are non-nuclear or nuclear and, in the latter case, whether they are for peaceful purposes or not. The solution of these problems will depend on an agreement about peaceful nuclear explosions which remains to be concluded between the two Powers. We have understood that there is an agreement in principle that observers will be present at such explosions. I hope indeed that this will mean not merely bilateral but international observation. The International Atomic Energy Agency has, in co-operation with the two Powers and other States, already formulated and agreed on procedures for the international observation of peaceful nuclear explosions under the NPT. These procedures could

be considered a suitable starting-point for the working-out of procedures for the international observation of such explosions also in the territories of the two super-Powers.

Apart from the technicalities of identification under the threshold test ban of military nuclear explosions and peaceful nuclear explosions, particular political importance must be attached to the achievement of international observation of peaceful nuclear explosions. By this I mean not only such explosions under the NPT — that is when the NPT nuclear Powers perform peaceful nuclear explosions by way of assistance under article V — but also when the nuclear-weapons Powers carry out peaceful nuclear explosions for their own purposes anywhere. Such an undertaking would constitute a good example and would considerably ease the task of arranging international observations of peaceful nuclear explosions made by countries still outside the NPT.

The threshold test ban gives peaceful nuclear explosions a new and rather distinct place. Together with the attention already given to them under the NPT, and the recent carrying-out of a peaceful nuclear explosion by India — an event which has adversely affected the efforts to stop the spread of nuclear-explosion capability — peaceful nuclear explosions have obtained a political importance which compels me to take up some more general aspects.

Peaceful nuclear explosions give rise to a number of international problems. Under the NPT they were offered as a compensation for the undertaking by the non-nuclear weapon States not to develop nuclear devices. This provision of the NPT has so far not been implemented. The United States development of peaceful nuclear explosions has slowed down, perhaps for purely domestic reasons but enough to generate doubts about the general usefulness of such explosions. The Soviet programme appears more vigorous and contains a few applications which could be quite successful.

In order to implement the NPT fully in regard to peaceful nuclear explosions, an international agreement on such explosions must be concluded. The stipulation in article V of the Treaty on this matter provides us with a base for negotiation. This would of course be a political matter and therefore a proper task for the CCD to undertake. The special international agreement must state explicitly that the potential benefits of peaceful explosions shall be made available on a non-discriminatory basis to those countries that forego production of nuclear devices. The technical feasibility of a particular project, its economic, health and safety aspects, should be evaluated by the International Atomic Energy Agency. The overall advisability of the project should in our view be determined by a political international body. This body should also have the authority to license such a project. When it comes to the execution of the project, the International Atomic Energy Agency again would have an important role to play in arranging for and controlling the actual explosion.

This is, of course, only one aspect of the general desideratum, or rather imperative, that the use of nuclear energy in general should be under the control of an international regime. This is a matter which I should like to elaborate in some general terms.

The initial success achieved in stopping the spread of nuclear weapons may turn into a frightening failure. We must request all parties to the NPT to take further action to implement articles IV, V and VI, and appeal to States not yet parties to adhere to the treaty. But new vigorous efforts are also necessary to guide the course of events into a positive direction. We must ask ourselves whether a new approach might not be necessary to tackle the problem of control, a more powerful and effective approach than the one now prescribed in article III. In view of all the recent events, it is necessary to strengthen the barrier which must be kept between the peaceful uses of the atom and its use in nuclear weapons. The present safeguards system can detect but not prevent the diversion of nuclear materials. It is, in other words, only an inspection and accounting system. Most important, it lacks, so far, application to all facilities in all countries.

A country which exports nuclear material and equipment for exclusively peaceful

use cannot feel safe that its exported material or equipment will not in some future be used for bombs or other explosive devices. In addition to this danger of proliferation, the accelerating world production of plutonium as a by-product of peaceful nuclear energy constitutes a formidable problem in the handling of large quantities of this highly radioactive and supertoxic material. It is obvious that the free utilization of nuclear energy for peaceful purposes, as foreseen in article IV of the NPT, will not be possible if the barrier is not secure.

Facing these grave prospects, I wish to recall that, when the International Atomic Energy Agency was established, the aim was to provide such a barrier. I wish to suggest for the consideration of the Committee that these aims now be realized. In considering this I have been inspired by certain elements in the proposals discussed during the 1940s in the United Nations Atomic Energy Commission, and also by elements of the Euratom Treaty and the IAEA Statute itself. It might be necessary to extend the present safeguards system, which can detect but not prevent any misuse of nuclear material, to include a system for physical protection of all stockpiles of nuclear material, for stockpiling by the Agency for all excess nuclear material. One could also consider International Atomic Energy Agency ownership of all nuclear material within the Community. However, what I primarily have in mind is an internationalization of the management of nuclear material, the key task being not only to watch but also to protect all the material in order to prevent nuclear-weapons proliferation and guarantee the safest possible management of nuclear-energy production. The matter is indeed complex, but it is our conviction that the Committee cannot avoid facing it one way or another.

We believe that establishing sufficiently strong international measures for the effective control of the use of nuclear energy must be part of an indispensable process of creating internationally-designed and accepted policies in areas of crucial importance to the future of mankind. The Swedish delegation will continue to give serious thought and consideration to the ideas which we have presented in a very preliminary form today. We know that many other delegations share the fears which underlie these ideas. We hope that an exchange of views will take place in the forum of this Committee.

CCD/PV.647

pp.17-19

USSR/Roshchin

30.7.74

CW

Verification of the fulfilment by the States parties to the convention of their obligations is another important problem pertaining to a convention on the prohibition of chemical weapons. The draft conventions submitted to the Committee by the socialist countries and by Japan offer different approaches to the problem of control. The draft of the socialist countries is based on national means of observation and control by the use of certain international procedures. The Japanese draft provides for the establishment of an international verification agency entitled to conduct international on-site inspections. However important the problem of organizing control over the prohibition of chemical weapons may be, it is a secondary one. The way it is handled in all its concrete aspects might be made to depend on the measure of agreement reached regarding the scope of the prohibition and regarding the problem of banning chemical weapons altogether.

We note with satisfaction the work accomplished at informal meetings of the Committee with the participation of experts from 17 to 22 July on the prohibition of chemical weapons. Twenty-two experts from thirteen States members of the Committee took part in those meetings. The meetings gave evidence of the great interest of States in the solution of the problem of the prohibition of chemical weapons, as well as of their concern at the present regrettable stagnation of the negotiations on this problem in the Committee. The active participation of experts from many countries of the world

in the discussion of technical aspects of the prohibition of chemical weapons has attracted much attention to these issues and has stimulated their discussion both in the Committee and in other international forums.

The question of the scope of the prohibition of chemical weapons loomed large in the statements made by the experts. In the choice of a criterion for defining the scope of the prohibition, it is necessary to bear in mind that the ban must cover all types of chemical weapons. In this connexion we should like to note that the "purpose criterion" for defining the scope of the prohibition has been widely recognized as the most appropriate and realistic approach. The main advantage of this criterion is its universality, which ensures the comprehensive prohibition of chemical means of warfare. The acceptance of this criterion makes it possible to prohibit not only known substances but also any other toxic substances whose properties may be studied in the future. Another argument in favour of the "purpose criterion" is that it also covers binaries, which turn into chemical weapons at the moment of application, and substances used for destroying useful plants. Consequently the "purpose criterion" would guarantee the complete prohibition of chemical weapons, which is the eventual goal of any solution to this problem. However, in view of the possibility of solving the problem of prohibiting chemical weapons by stages, it becomes necessary to supplement the "purpose criterion" by some other criteria.

In the discussion of the technical aspects by the experts, considerable attention was devoted to the problems of supervising the prohibition of chemical weapons. Many aspects of these problems were broached, in particular that of the basis of supervision -- national or international means of observation and supervision. At the meetings of experts data were produced on the difficulties that would arise from international supervision of the production of chemical agents -- especially of dual-purpose agents -- and, of course, from supervision of research. In such supervision the questions arise of protecting the rights of industrial and intellectual property, in view of the need for patenting new chemical substances, processes and production technology. Many chemical firms, especially those producing dual-purpose agents, and research institutes and laboratories will not agree to acquaint foreign specialists with their activities. Visits by such specialists to industrial enterprises and research institutes could reveal industrial secrets and nullify the protection of industrial property. The conclusion, therefore, is that international supervision of cessation of the development, production and stockpiling of chemical weapons is impracticable.

Moreover, the very presence of foreign observers during the conversion to peaceful purposes or the destruction of stocks of chemical weapons could in certain circumstances lead to the revelation of industrial secrets. In this connexion we should like to point out that their presence might also lead to the revelation of secrets regarding the nature and character of the chemical agents to be destroyed. This could, in the event of abuse by an observer of his rights, lead to proliferation of lethal chemical means of warfare. In addition, methods can be developed for chemical conversion of war-oriented chemical agents to peaceful purposes. Here, too, the question arises of protecting industrial property. This idea was confirmed in the discussions of the experts at the informal meetings.

In view of the difficulties involved in the organization of international supervision of prohibition of chemical weapons and, indeed, of its impracticability, we believe that a solution to the problem of supervising such prohibition should be sought in the use of national means of supervision, supplemented by certain international procedures. In this connexion the Soviet expert expressed the view that international supervisory bodies could act in accordance with an international programme containing the necessary rules and standards. This programme could be elaborated and adopted at an international conference of experts. A standardized programme would make it possible to eliminate

any shortcomings in the day-to-day work of national supervision committees.

In a system of national supervision of prohibition of chemical weapons, the representatives of national supervisory committees could acquaint themselves with the work of the chemical undertakings of the country, and visit plants and research institutes. The national supervisory committees could be empowered by law to visit any undertaking whose work they thought they should see. Divulgence of industrial secrets by national inspectors would be prevented by State legislation. The national supervisory system could also be supplemented by international co-operation, such as an exchange of information between States on the production of chemicals and so on.

In building up a system for national supervision of prohibition of chemical weapons, use could be made of the experience of organizations engaged in the protection of the environment, in the campaign against illicit traffic in drugs, and in supervision of the production of goods subject to special State regulations concerning their sale and consumption.

The exchange of expert opinion at the informal meetings should contribute to the elaboration of an agreed approach to these problems, as well as to progress in the talks on prohibition of chemical weapons.

In order to stop the production of chemical means of warfare, it would be effective to introduce changes in the patent law of countries signing an agreement on prohibition of chemical weapons, with a view to banning the patenting of chemical agents designed for military purposes, and to cancelling all existing chemical-weapon patents and destroying all means of using them for military purposes.

CCD/PV.649

p.7

Bulgaria/Nikolov

6.8.74

CW

Some delegations maintain that the initial scope of the future convention should depend on the successful solution of the problems dealing with verification. Proceeding from this premise some representatives have suggested that we may have to limit ourselves first to the prohibition of just one class of agents -- the super-toxic organo-phosphorus compounds -- or maybe two classes, those and the mustard-type agents. Others believe that the phasing of the prohibition should not be based on excluded agents but rather on excluded activities.

We do not share the view that verification should be given priority over scope, and even less the view that scope should be made dependent upon verification. We think that the question of the ban on certain chemical-weapon agents is of a political nature and calls for a political decision. Efforts should be directed first at finding out which are the agents to be prohibited on their own merits, and then at trying to devise suitable methods of control and verification. Given good will on all sides, a solution to this problem will be found.

During the unofficial meetings the question of the methods and criteria for defining the scope of the prohibition was widely discussed. The examination of this problem reaffirmed our belief that the best solution continues to be the "purpose criterion" embodied in article 1 of both the socialist and the Japanese draft conventions. As different from other methods, this one solves all problems connected with the necessity of covering such agents as the binary weapons, other classes of agents to be discovered in the future, etc. We share the view that the "purpose criterion" in combination with some other methods, like the one based on general toxicity, may be successfully applied both to a comprehensive and to a phased prohibition.

The Bulgarian delegation does not underestimate the difficulty of the verification problem. However, we consider that a foolproof international control system for verifying a chemical-weapons ban, as advocated by some delegations, is not feasible in prac-

tice for various reasons already indicated during the unofficial meetings and on other occasions. We are of the opinion that the system of strict national control supplemented by certain international procedures set forth in the joint paper of the socialist countries (CCD/403) provides a reasonable assurance of compliance and continues to hold out the best hope for an adequate solution to the verification problem. We consider that this is true in the case both of a comprehensive ban and of a phased one.

CCD/PV.659 p.10

Poland/Wyzner

18.3.75 CTB

The question of a comprehensive nuclear test ban treaty and that of peaceful nuclear explosions, closely wedded to the non-proliferation of nuclear weapons, are important issues on which prompt action by this Committee is required under resolutions of the last General Assembly session. The problem of a comprehensive test ban covering all environments and binding upon all the nuclear-weapon States requires early solution so that continued perfection and sophistication of nuclear arsenals can be brought to an end. Regrettably, the totally negative attitude of certain nuclear Powers towards such agreements as the 1963 Moscow Partial Test Ban Treaty and the NPT is the major stumbling block delaying, if not preventing, a radical solution of this question in one multilateral agreement.

While for many years progress with respect to the underground test ban has been slowed down by intransigent insistence on a verification formula calling for on-site inspection, we believe that -- as has been suggested -- a verification system based on experience of the elaboration of the control system used in the Soviet-United States Treaty on the Limitation of Underground Nuclear Tests could present the right way to solve the problem of the cessation of underground nuclear tests.

CCD/PV.660 p.8

Bulgaria/Nikolov

20.3.75 CTB

Last year the Bulgarian Government welcomed the USSR-United States Threshold Test Ban Agreement as a step towards a comprehensive test ban. We note with satisfaction the undertaking of both the USSR and the United States to pursue their efforts with a view to achieving a total test ban in all spheres. An important feature of the Threshold Test Ban Agreement is that it is based entirely on verification by national means. We continue to hold the view that such means are fully adequate for a comprehensive test ban too. A recent confirmation of the validity of this position came from the authoritative Pugwash Conference, which assembles outstanding scientists from all over the world. We can read in the Report of Working Group I of the 24th Conference held in Baden, Austria, last fall, the following passage:

"Compliance with a comprehensive test ban could now be verified with adequate confidence without on-site inspection, which was a major source of contention during the negotiations of the early 1960s, and there was a consensus in the Group that a comprehensive agreement banning all underground nuclear weapon tests should now be speedily concluded".

It is to be hoped now that the United States will be in a position to drop its insistence on on-site inspections, thus clearing the way for the realization of yet another major step forward in this important area.

CCD/PV.661 pp.7-8

Japan/Nisibori

25.3.75

CW

Next, with reference to the chemical agents which are to be prohibited first according to our draft convention, the Soviet expert pointed out that binary toxic substances were not referred to at all in the Japanese working paper (CCD/430) which suggests one example of super-toxic organophosphorus compounds to be listed in annex I (B) to our draft convention. By the same token, the Polish expert suggested that binary toxic substances should be included in the chemical agents listed in the initial ban.

My delegation shares the same views that the binary agents should hopefully be included in the chemical agents which are to be prohibited from the outset, since they become super-toxic chemical compounds at the stage of use. However, as the Swedish delegate stated on 15 August last year, "from a realistic point of view, a convention without provisions for international verification cannot be regarded as having greater value than would equivalent unilateral declarations" (CCD/PV.652, p.7). It is necessary to ensure an effective means of verification for the chemical agents to be prohibited in order to decide the scope of chemical agents which are to be prohibited from the beginning. Therefore, if an effective means of verifying the binary components could be found and its application to them be agreed upon, it would be quite possible to prohibit these binary components from the beginning.

In the meetings with the participation of experts last summer, the Swedish expert suggested that if annex I (B) to our draft convention be adopted, it should have a list of chemical agents exempted from the ban in addition to a list of chemical agents obligatorily banned. Referring to this statement, the Swedish delegate suggested on 15 August last year that the two different lists provided for in the proposed alternative annexes of our draft convention might be put together in one annex, and that such an annex would thus include the two lists both of agents obligatorily banned and of those exempted from the ban and, in this way, other unknown agents could be generally forbidden under the convention. She stated further that another advantage would be that no newly developed or recently discovered agents could be produced as chemical warfare agents until explicitly suspended from the ban (CCD/PV.652, pp.8-9).

The idea of annex I (B) to our draft convention is, in principle, based on the recognition that the prohibition of chemical agents which are to be prohibited from the beginning must be secured by effective verification measures. As for unknown chemical agents, when their existence has become generally known, we would examine whether any effective verification measures could be available for them or not; then, we would proceed to study, at the review conference, whether they could be included in the list of chemical agents obligatorily banned. However, following this idea, I cannot but admit the defect that new chemical warfare agents, which are clandestinely developed, produced and stockpiled, might be left free from the control.

In this connexion, the idea suggested by Sweden -- to put the two different lists of obligatorily prohibited agents and of suspended agents into one annex, and then temporarily prohibit, even though without available verification measures, the group of agents not falling into either list but belonging to the so-called twilight zone between the said two groups of agents -- would deserve full consideration since this formula might work as a moral restraint for a State which is going to develop new chemical agents, and furthermore this certainly meets the purpose of our draft convention which aims at a comprehensive ban.

CCD/PV.661 p.12

Mexico/Garcia Robles

25.3.75

PNE

The establishment of an inspection and control system for the purpose of verifying

compliance with the obligations assumed will be an essential provision of any treaty of IAEA safeguards to all the nuclear activities of the parties. In the light of experience with the Tlatelolco Treaty, it would be very desirable that, whenever possible, the parties should make provision, in addition to the safeguards which I have just mentioned, for specific regional procedures, such as those established in articles 14, 15 and 16 of the Latin American Treaty which, in particular, permit special inspections to be carried out if necessary.

Apart from special clauses designed to promote the peaceful uses of nuclear energy on conditions advantageous for the developing States, and apart from clauses dealing with nuclear explosions for peaceful purposes -- a subject which will undoubtedly be among those requiring particular attention by the experts in the preparation of their study -- treaties for the establishment of nuclear-weapon-free zones should contain general rules such as those in article 17 of the Treaty for the Prohibition of Nuclear Weapons in Latin America, which reads:

"Nothing in the provisions of this Treaty shall prejudice the rights of the Contracting Parties, in conformity with this Treaty, to use nuclear energy for peaceful purposes, in particular for their economic development and social progress."

In the preparation of any of the treaties of the kind I am discussing, the provision in article VII of the Treaty on the Non-Proliferation of Nuclear Weapons should be constantly borne in mind. It reads as follows:

"Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories."

This provision will be of particular relevance because it invalidates any claim that the conclusion of treaties for the establishment of nuclear-weapon-free zones should in any form whatever be made conditional upon the States of the zone in question being parties to the Treaty on the Non-Proliferation of Nuclear Weapons.

CCD/PV.661 p.19 Mongolia/Dugersuren 25.3.75 CTB

The achievement of agreement on a comprehensive ban on the testing of nuclear weapons would be a measure of outstanding importance in preventing the proliferation of nuclear weapons and in curbing the nuclear arms race. Our delegation has already welcomed the 1974 Soviet-United States agreement on the limitation of underground nuclear tests as a step of great political significance, capable of opening the way to the complete prohibition of this type of test. As our delegation pointed out at the 652nd meeting of the Committee, yet another important aspect of this agreement is the fact that it has demonstrated the possibility of finding a reasonable solution to the problem of verification on the basis of the use of national means of detection and identification alone.

CCD/PV.662 pp.20-22 Netherlands/van der Klaauw 1.4.75 NPT

In the summer of 1974 the Netherlands Parliament gave its formal approval to the Non-Proliferation Treaty and to the safeguards agreement concluded by Euratom and its non-nuclear-weapon members with the IAEA. We earnestly hope that all those members which have not yet deposited their instruments of ratification will be able to do so in the very near future.

Since I have no important remarks to make on articles I and II of the Treaty, which

all Parties abide by as far as we know, I may start on the complicated article III, the safeguards article. First of all we do not see any reason to comment at this stage on the IAEA safeguards system, developed for the NPT, the so-called "Blue book". Application of this safeguards system, based on verification of the whole fuel-cycle in non-nuclear-weapon States Parties to the Treaty, is only now starting on a big scale. More experience seems to be needed before we can assess the viability of the system in the long run. I only wish to make a somewhat technical remark: With the growth of the nuclear industry there will be growing amounts of fissionable material in the world. Since the "material unaccounted for", or "muf", can be regarded as an error related to those amounts, it is necessary to prevent high absolute amounts of muf -- which could develop in the bookkeeping system, for example through inaccuracies in measurements -- from becoming a matter of concern to the international community. Therefore, in applying safeguards, continuous attention will have to be given to improving safeguards techniques, especially in measurements and accountancy methods. At the same time due emphasis will have to be laid on containment and surveillance measures for which the "Blue book" provides.

Containment and surveillance measures would also enhance the physical security system set up by the national authorities, or could be combined therewith. This brings me to a problem that is not covered by the NPT itself, but will nevertheless deserve the attention of the Review Conference -- namely, how to prevent misuse of nuclear materials by unauthorized individuals or sub-national groups. This is a new aspect of the problem of proliferation of nuclear weapons. As we are well aware, the IAEA safeguards system concerns itself only with the detection of possible diversions of nuclear materials and with deterrence of such diversions by the risk of early detection, as is stated in paragraph 28 of the "Blue book", but it does not concern itself with the physical prevention of diversion. This is understandable in a world consisting of sovereign States. The national authorities have the primary responsibility to prevent theft and misuse of nuclear materials and sabotage of nuclear facilities.

However, this does not necessarily mean that the international community could not concern itself at all with this problem. Terrorism is international and nuclear materials, diverted from the fuel cycle in one country, could appear in another country to be used for blackmail. Therefore, we support the idea, originally ventilated by the United States, of elaborating an international convention on the physical protection of nuclear materials. We have also appreciated the fact that the Soviet Union and the United Kingdom, in their Joint Declaration on the Non-Proliferation of Nuclear Weapons of 17 February 1975 (CCD/448), have expressed their common concern that nuclear materials should be carefully protected at all times and that adequate safety measures should be carefully applied by all countries to radioactive waste. Although the carrying out of physical protection measures is in itself a responsibility of national authorities, we could imagine that IAEA might be given some role in the implementation of an international convention in this field, for example in combination with its safeguards activities.

The implementation of article III, paragraph 2, of the Non-Proliferation Treaty, to which I come now, is a somewhat different question. This article deals, in practice, with exports to non-nuclear-weapon States which are not parties to the Treaty. In order to ensure that nuclear materials and equipment which are exported by Parties cannot be used for the manufacture of nuclear weapons or other nuclear explosive devices by non-nuclear-weapon States which are not parties, this article asks for safeguards in the importing country. What kind of safeguards are understood by this article is, however, not totally clear and seems open to discussion. Until now, the article has been interpreted as meaning that safeguards according to the so-called old system of the IAEA have to be applied -- that is, safeguards on specific installations but not necessarily on the whole fuel cycle. This interpretation was not illogical: exports normally consisted of

fuel or equipment for nuclear reactors. Fuel came from outside and reprocessing normally also took place outside the country where the reactor was standing. So safeguards on such a single reactor could be applied without many complications.

With the expansion of the use of nuclear energy, however, other parts of the fuel cycle could be exported, such as equipment for uranium-enrichment, fuel fabrication or reprocessing. The fuel, processed in these facilities, will normally go into the whole fuel cycle of the importing country. The question arises as to whether in that case the difficulties connected with keeping track of the safeguarded material throughout the fuel cycle can be adequately solved. The application of IAEA safeguards on the whole fuel cycle of the importing country should therefore be considered. Such a development would also bring into line the positions of the nuclear industry of parties and non-parties to the NPT. It would strengthen non-proliferation policy in another important aspect too: it would ensure that technology, imported by way of importing certain sophisticated equipment under safeguards, would not be misused in unsafeguarded parts of the fuel cycle.

We do not think that the NPT Review Conference is the right place to work out all the details of such or other possible nuclear export policies. However, we could imagine that the Review Conference would give some broad guidelines to the nuclear suppliers on means of strengthening non-proliferation policy. The suppliers could work out between themselves the more technical details, as they did in the past.

From the point of view of verifying compliance with the obligations under the NPT, safeguards are not necessary with regard to the nuclear activities of the nuclear-weapon Parties to the Treaty. On the other hand, we have to admit that the application of safeguards represents a certain burden for the non-nuclear-weapon Parties which places them in an unequal position. Therefore we have noted with satisfaction that the United States and the United Kingdom have been willing to accept IAEA safeguards on peaceful activities. The Soviet Union up till now, has not. There was one hopeful sign, however: IAEA representatives have been in the Soviet Union to develop safeguards for a Soviet type of reactor. We sincerely hope that this could mean the beginning of more regular safeguards in the Soviet Union — verification measures which it is pleased to see accepted by so many other countries.

As the Netherlands delegation has pointed out before in this Committee, safeguards on the peaceful fuel cycle of the nuclear-weapon States would facilitate the verification of a possible cut-off of the production of fissionable materials for weapons fabrication. Transfer of significant amounts of weapons-grade material to the peaceful sector could take place simultaneously, according to an old United States proposal.

CCD/PV.665 pp.8-9

Italy/di Bernardo

10.4.75

VER

Since, whether we like it or not, it is perfectly clear that unless we deal seriously and directly with the problem of verification we shall have to shelve all the valuable work the CCD has done on chemical weapons and the CTB, why should we not reserve for the time being or, if you prefer, bracket incompatible positions of principle, and look for a pragmatic, empirical and, shall we say, neutral approach to the problem? Would it not be possible to explore an articulated range of verification hypotheses, both obtrusive and unobtrusive, national and international, examining their technical merits and limitations, considering the objective possibilities of each of them on the basis of current scientific and technical developments, and looking at some organizational concepts as well? The accent in this inquiry should be placed on the technical capacities each system offers, leaving other and larger considerations aside for the moment.

Such an approach could perhaps facilitate a more positive and careful reappraisal of

the technical material at the disposal of the CCD, and, if necessary, further qualified investigations. It would of course be important to be able to make timely and profitable use of the joint contribution the United States and the USSR have promised to provide on chemical weapons. Also, in so far as this is compatible with their security requirements, it would be very helpful to know what verification devices these same Powers will apply in implementing their recent agreement on underground nuclear tests. In due time it would be equally interesting to know what verification system will be finally agreed upon in the negotiations which seem to be under way between these Powers in the field of peaceful nuclear explosions.

This empirical approach could afford an opportunity to evaluate effectively and objectively the technical possibilities of different systems of verification. If we proceed in this way, the larger issues involved might become less intractable and room might be found for useful insertions in the future. Later, with practical, concrete, and sufficiently specific terms of reference, the CCD could see if there is room for useful mediation within a larger context.

I am well aware of the difficulties inherent in an undertaking of this kind. It would take much objectivity and we should have to approach our task with open minds and refrain, for some time at least, from putting old wine into new skins. The main thing is to keep a constructive debate on this vital issue going and open to any proposal worthy of consideration. We must introduce an element of flexibility into a picture which until now has been characterized by extreme rigidity.

Moreover, there is a fundamental reason for undertaking a thorough, serious and urgent investigation of this crucial question of verification. The efforts exerted by the super-Powers to break the spiral of a disastrous nuclear race and achieve a tolerable balance are, of course, of primordial importance and deserve our warmest encouragement. But it is equally, if not more, important for the international community, first and foremost through the CCD, to work for the gradual accomplishment of its own programme of disarmament and arms reduction, realistically and resolutely. This programme is cast in a different and larger frame, and its aims are broader than those of any Power or group of Powers. The CCD has a wider political, social, economic and ethical scope. There can be no substitute for the international community in this field. It would be impossible otherwise to build a true and democratic society of nations.

CCD/PV.671 p.14

USA/Martin

8.7.75

PNE

The United States working paper is based on the assumption that the principal arms control objective regarding PNEs should be pursued just as scrupulously in the case of nuclear-weapon States as in the case of non-nuclear-weapon States. Thus, it is necessary to achieve adequate assurance that nuclear-weapon State PNE programmes do not provide nuclear-weapons-related benefits otherwise not available to those States. Whether or not a PNE programme carried out by a nuclear-weapon State would provide such weapons-related benefits would depend on several factors, including the extent and character of that State's existing nuclear weapons capabilities, the level of its PNE activity compared to the level of its weapons testing programme, and the effectiveness of any constraints on its PNE programme.

The working paper notes that if weapons testing were limited by international agreement while PNEs were not constrained, the potential would be created for using the PNE programme to achieve weapon-related benefits no longer available in the weapons testing programme. Therefore, in order to prevent the acquisition of such military benefits, it would be necessary to place strict controls on PNEs as well. Such constraints are currently being worked out by the two parties to the Treaty on the

Limitation of Underground Nuclear Weapon Tests. While it is too early to predict the content of the PNE agreement called for in article III of the Threshold Treaty, it is essential that it contain adequately verifiable constraints capable of ensuring that PNEs are consistent with the provisions of that Treaty.

Under a comprehensive ban on nuclear weapons testing, the objective of preventing the acquisition of weapon-related benefits from a PNE programme would be considerably more difficult to achieve. Since there would be no authorized weapons testing, incentives for seeking military benefits in the course of a PNE programme would be much greater than under a threshold test ban régime that accommodated PNEs.

If PNEs were to be accommodated under a comprehensive test ban, a verification system would have to be devised that would be capable of providing adequate assurance that PNEs were not being used to test a new weapon concept, to verify the performance of weapons already in the stockpile, or to conduct studies of nuclear weapons effects.

CCD/PV.672 pp.7-9

Canada/Rowe

15.7.75

PNE

....The possibility of applying nuclear explosions to peaceful purposes is, of course, already foreseen in the Non-Proliferation Treaty. What is at issue is that the only difference between the manufacture of a nuclear explosive device for peaceful, as against military purposes, is basically the intended end use. A nuclear explosive device intended for a particular peaceful application may have specific design features, but any nuclear explosive device could serve military ends. A treaty permitting nuclear-weapon States to carry out peaceful nuclear explosions under certain limitations which also apply to nuclear weapons tests, but allowing the continuation of military testing, is unlikely to encourage nuclear-weapon States to use peaceful nuclear explosions to serve military purposes. That is a question to which I shall address myself in a moment. But what is clear is that a non-nuclear-weapon State which has not yet developed a nuclear explosive capability cannot develop such an independent capability for peaceful purposes without, in the process, acquiring the potential to apply the knowledge to the manufacture of nuclear weapons. This is central to the issue of the proliferation of nuclear weapons to additional States.

International observation of peaceful nuclear explosions carried out independently by non-nuclear-weapon States would not overcome the problem. It should be understood that the purpose of the international observation contemplated in the NPT is to ensure that, if and when a nuclear-weapon State provides peaceful nuclear explosion services to a non-nuclear-weapon State, no nuclear explosive device or any technology involved in the design or detonation of the device is passed on to the non-nuclear-weapon State. This observation would, of course, have to be combined with the diligent fulfilment by both parties of the provisions of the NPT, articles I, II and V, and appropriate security arrangements to ensure that the nuclear explosive device never leaves the custody and control of the nuclear-weapon State providing the service. We fail to see, however, how international observation of the detonation by a non-nuclear-weapon State of a nuclear explosive device acquired or independently developed by the non-nuclear-weapon State for peaceful purposes could prevent that State from applying the knowledge it had thereby gained to the manufacture of nuclear weapons if it was determined to follow this course.

Even nuclear explosions clearly applied to practical peaceful purposes cannot but contribute to the general knowledge of nuclear explosive technology. Indeed, many elements of device design desirable for peaceful purposes could also serve military purposes. The technology involved in designing devices for peaceful uses is no less sophisticated than the technology required for many military applications. For example,

the miniaturization of nuclear explosive devices for use in narrow-bore, deep-well petroleum stimulation explosions may also serve important weapons design objectives. While nuclear-weapon States having an unrestricted testing programme need not look to peaceful nuclear explosion development as an avenue for developing device technology for military purposes, in the case of non-nuclear-weapon States peaceful nuclear explosions could be the obvious avenue for obtaining design information of potential military value. The nuclear-weapon States have been able to design devices for application to specific peaceful purposes largely as a result of the extensive knowledge gained from weapons testing. Given the sophisticated design requirements for most peaceful applications, it is difficult to see how a non-nuclear-weapon State could achieve the effective application of peaceful nuclear explosions without undertaking a major testing programme with its inescapable military implications.

In our view, therefore, for a non-nuclear-weapon State to have an independent capacity for peaceful nuclear explosions is incompatible with the objective of preventing the spread of nuclear weapons to additional States. It is for this reason that Canada firmly believes that the only basis upon which non-nuclear-weapon States, whether or not party to the NPT, should obtain potential benefits of peaceful nuclear explosions should be by way of nuclear explosive services provided by the nuclear-weapon States. These should be conducted under the international observation and international procedures called for in article V of the NPT and in accordance with other applicable international obligations. This view was reaffirmed in the Final Declaration of the NPT Review Conference. Indeed, we do not believe it was ever questioned by any delegation at that Conference.

I shall make some comments in a few moments about Canada's views as to whether or not the peaceful application of nuclear explosions is likely to have significant economic benefits. At this point, however, I wish to stress Canada's view that, if it is internationally agreed that peaceful nuclear explosions have real and significant economic value which outweighs their risks, or if nuclear-weapon States are determined to pursue their experimentation in the peaceful application of nuclear explosions, then it is necessary that any benefits from peaceful nuclear explosions made available to non-nuclear-weapon States are provided under the special international agreement or agreements contemplated in article V of the NPT. This is why we strongly support the recommendation of the NPT Review Conference that IAEA expedite work on identifying the legal issues involved in, and commence consideration of, the structure and content of such an agreement or agreements. We firmly believe -- as the United Nations General Assembly, IAEA itself, and the NPT Review Conference have affirmed -- that IAEA is the appropriate international body through which potential benefits from any peaceful applications of nuclear explosions could be made available to non-nuclear-weapon States, and that IAEA should continue to play the central role in matters relating to the provision of peaceful nuclear explosion services.

While I have pointed to a solution to the problem of peaceful nuclear explosions in the context of the non-proliferation of nuclear weapons to additional States, we are still faced with the second major issue of how peaceful nuclear explosions may be carried out by nuclear-weapons States without their contributing to the improvement of nuclear weapons. This is not a problem so long as the nuclear-weapon States are permitted to carry out nuclear weapon tests, but it becomes a significant problem as soon as limitations are sought on weapons testing. It has an especially important bearing on the prospects of achieving a comprehensive ban (CTB) on nuclear weapons testing. To the extent that limitations are placed on nuclear weapons testing, the more important peaceful nuclear explosions could become as a potential cover for obtaining militarily useful information. To Canada's knowledge no solution has yet been found to this problem.

We recognize that there is a degree of difference between a nuclear weapons Test and a nuclear explosion carried out by a nuclear-weapon State for a specific peaceful economic purpose. Examples of objective criteria for making this distinction, where on-site observation is possible, would be: (a) that the engineering or other practical economic objective of a peaceful nuclear explosion be declared in advance and the results of the explosion be seen to have been directed to that objective; (b) that the objective appears to be reasonable and justified and other non-nuclear means are not economical or feasible to achieve that objective; and (c) that the yield and characteristics involved be consistent with the objective. Such criteria would have to apply whether the peaceful nuclear explosion were carried out by the nuclear-weapon State on its own territory or on that of another State pursuant to article V of the NPT.

CCD/PV.672 p.13, 15

Sweden/Hamilton

15.7.75

PNE

The Japanese working paper provides us with a review of the issues involving nuclear explosions for peaceful purposes and of their logical relationships with other nuclear activities. It lists classifications of nuclear explosions for peaceful and for military purposes, discusses the military usefulness of explosions of one kind or another, provides us with a chapter on such registration of nuclear explosions for peaceful purposes as could be required, lists significant political or treaty conditions under which such explosions could occur, mentions current political and legal restraints, discusses the implication of unexpected technological breakthroughs and concludes, not surprisingly, that nuclear explosions for peaceful purposes constitute a difficult subject, the study of which might well by necessity end up in a (special) international agreement on such explosions.

Despite the Japanese working paper's stated purpose of only identifying relationships between nuclear explosions for peaceful purposes and other nuclear disarmament matters, it provides us with much more than that, by a number of observations and judgements. We were particularly glad to note the idea, in chapter 7 of CCD/454, of a special safeguards and physical protection regime for plutonium stores, so that withdrawal for, *inter alia*, explosions for peaceful purposes, could be closely monitored. This should fit in well with the ideas presented by the Swedish delegation last year, on 30 July, in our summer session (CCD/PV.647), on the international management of fissile materials. Two other interesting points made in the Japanese paper before us are, first, that current safeguard requirements could be supplemented by an explicit "no explosion" obligation and, second, that the differences between the original IAEA safeguards and the NPT safeguards perhaps could be abolished. The working paper also raises interesting points about technology transfer, a complicated matter into which we certainly should look much more.

After these lengthy reviews of two very important contributions to our work here, I will proceed to a few observations of our own. First, in relation to the peaceful use of nuclear explosions by nuclear-weapon States, I noted with satisfaction in the United States working paper a statement to the effect that the United States and the Soviet Union agree that their agreement on the conduct of nuclear explosions for peaceful purposes should contain "adequately verifiable constraints" to ensure that the explosions for peaceful purposes do not provide loopholes for weapon development. The matter is of course an affair between the two Powers. I only ask, as we and others have done before, that this will lead to international observation of the explosions for peaceful purposes and to an internationally open disclosure of relevant explosion data, before and after the events. Such a practice will help us all on the road to the Complete Test Ban

Treaty.

CCD/PV.672 p.19 FRG/Schlaich 15.7.75 PNE

The efforts to reach an international arrangement on PNE-services within the framework of IAEA (according to article V of the NPT), efforts fully supported by us, are therefore based also on important considerations of armament control policy. In this respect, the Ad Hoc Advisory Group to the Board of Governors, established on the basis of proposals co-sponsored by us, will have to fulfil an essential function.

In order to avoid any misunderstanding, PNEs will be out of the question for a foreseeable future in the territory of the Federal Republic of Germany. Our industry, however, might well be interested in supplying so-called PNE-related services in future joint ventures in other countries, i.e. in the form of preparatory and supporting planning, engineering and service activities. This, too, is of importance to us in the sense of a non-discriminatory non-proliferation policy.

Third, in the case of an international arrangement in accordance with article V of the NPT, particular importance will attach to the "international verification" provided for in that article under the aspect of armament control, so that non-nuclear-weapon States, in whose territory PNEs are carried out under an international procedure, will not be able, through uncontrolled channels, to acquire knowledge enabling them to produce nuclear weapons. Here, too, we see an important task of IAEA.

CCD/PV.673 pp.19-20 GDR/Herder 17.7.75 PNE

In this connexion we should like to point to the proposal made by the USSR at the NPT Review Conference as well as to the corresponding statement contained in the Final Declaration of the Conference according to which any potential benefits of PNEs could be made available to non-nuclear-weapon States even if they are not Party to the Treaty by way of nuclear explosive services, provided by nuclear-weapon States in accordance with Article V of the NPT. If these stipulations are realized, there is no need for a non-nuclear-weapon State to produce nuclear explosive devices for peaceful purposes itself. Furthermore we think that another possibility to prevent the proliferation of nuclear weapons by means of PNEs is the strict observance of article III of the NPT. In this connexion we should like to stress the statement contained in the Final Declaration of the NPT Review Conference according to which the States Party to the NPT are requested to strengthen common export requirements relating to safeguards, in particular by extending the application of safeguards to all peaceful nuclear activities in importing States not Party to the Treaty. The States Party to the NPT bear a special responsibility for that.

In our view, it is necessary to strictly implement and strengthen the NPT. All States should participate in this action. This would be the best way to prevent the misuse of peaceful nuclear explosions for the proliferation of nuclear weapons.

Another fact which we want to underline is that we consider the IAEA to be the appropriate international body through which potential benefits from peaceful applications of nuclear explosions could be made available to any non-nuclear-weapon State. It is a matter of fact that in recent years the IAEA has acquired important experience and deployed large activities in the practical realization of article III of the NPT.

For several years the IAEA has dealt very intensely with the problems of peaceful nuclear explosions and has created the practical preconditions for the realization of article V of the NPT. We should like to underline here the "Guidelines for the interna-

tional observation by the Agency of nuclear explosions for peaceful purposes under the provisions of the Treaty on the Non-Proliferation of Nuclear Weapons or analogous provisions in other international agreements".

In our view, these guidelines constitute an essential guarantee that in the course of peaceful nuclear explosions in non-nuclear-weapon States, in accordance with article V of the NPT, articles I and II of the Treaty are not violated.

This leads us to the conclusion that the IAEA should -- in co-operation with nuclear-weapon States on the basis of corresponding agreements -- co-ordinate, lead and supervise the performance of peaceful nuclear explosions in non-nuclear-weapon States. We could state with satisfaction that the majority of delegations who have spoken so far, shared this opinion. It is now necessary to strengthen the IAEA and to make use of its possibilities.

CCD/PV.673 p.22

USSR/Roshchin

17.7.75

PNE

The Soviet Union attaches great importance to the problem of peaceful nuclear explosions and the implementation, in that connexion, of article V of the Non-Proliferation Treaty, which provides, in particular, for the conclusion of a special international agreement or agreements through which non-nuclear-weapon States could obtain the benefits from peaceful nuclear explosions. The USSR is conducting a programme of scientific research and design work on the subject of the peaceful application of nuclear explosions and is actively participating in the preparatory steps to provide services in that respect, in accordance with article V of the Non-Proliferation Treaty, to non-nuclear-weapon States. Moreover, the Soviet side considers that peaceful nuclear explosions should be carried out in full harmony with the need to stop the arms race and prevent the proliferation of nuclear weapons. It takes the view that the procedure for carrying out peaceful nuclear explosions should be a constituent and integral part of the nuclear-weapon non-proliferation régime based on the Treaty on the Non-Proliferation of Nuclear Weapons. The Soviet Union also supports the view that IAEA is the international body through which non-nuclear-weapon States should be helped to obtain the potential benefits from peaceful nuclear explosions.

In regard to States which are not parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the Soviet Union, approaching the matter from the point of view of the need to strengthen the non-proliferation régime, considers that these States, too, should have access to the potential benefits to be derived from peaceful nuclear explosions. The USSR considers that these States, if given access to the use of such benefits, will have no incentive to create their own nuclear explosive devices and carry out peaceful nuclear explosions independently. In this connexion, the Soviet Union expresses its readiness to supply its services in respect of peaceful nuclear explosions even to States that are not parties to the Treaty on the Non-Proliferation of Nuclear Weapons, on condition that such services are provided under appropriate international control and on the basis of the procedures worked out by IAEA. The provision of access to the benefits from peaceful nuclear explosions for non-nuclear-weapon States, whether or not parties to the Treaty on the Non-Proliferation of Nuclear Weapons, should be instrumental in bringing a wider circle of States within the compass of the nuclear-weapon non-proliferation régime based on the Non-Proliferation Treaty, so that it comes nearer to being universal.

CCD/PV.675 p.16

Pakistan/Yunus

24.7.75 PNE

....Let us, therefore, not place too much emphasis on the term "peaceful". The real emphasis occurs later in the phrase -- on the term "explosion". If one has a nuclear explosion, one is already at the threshold of nuclear weapons. Whether one then actually produces nuclear weapons or not is an option to be exercised if considered necessary. Viewed in this light and in the context of the non-nuclear-weapon States, the question of the weapons-related benefit of peaceful nuclear explosion clearly seems to be only a jargon of words and verification amounts to locking the stable after the horse has bolted.

Interim control or safeguard measures, therefore, do not by themselves fill the bill. Short of a comprehensive and global nuclear régime and given the uncertainty that still prevails regarding the net economic advantages which can accrue from nuclear explosions, the most effective measure to contemplate is an agreement on placing a moratorium on peaceful nuclear explosions.

We all know that such explosions may be a matter of general interest, if at all, only in a distant and much more secure future than can be foreseen at present. Why should we not then agree to such a moratorium? If such an agreement is not possible, discussion of the arms control implications of the so-called peaceful nuclear explosions can serve but a limited purpose. I certainly wish these discussions success but cannot help feeling the the approach falls short of the mark.

The exercise for devising methods to deny weapon-related benefits of PNEs to either the nuclear-weapon States or to non-nuclear-weapon States assumes that nuclear weapons are here to stay at least in the foreseeable future and, therefore, an attempt should be made to ensure that non-nuclear-weapon States do not acquire nuclear weapons and nuclear-weapon States do not produce more sophisticated nuclear weapons. There is nothing wrong with this exercise, but how are those for whose benefit this exercise is designed to rely on the chances of its success? With the multiplication of atomic reactors and breeders throughout the world and with the reduction of the cost factor in nuclear explosive technology, one cannot avoid the conclusion that the exercise may amount to nothing more than an attempt to seal the punctures in a rubber balloon while the pressure of air in it continues to increase. Let us be clear about one thing, and that is that the greater the pressure of the air which is trapped in the balloon, the more terrible the explosion when it can no longer be controlled.

CCD/PV.676 p.17

USA/Martin

29.7.75 PNE

The general proposition was put forward that neither nuclear-weapon States nor non-nuclear-weapon States should be able to use a PNE programme to obtain nuclear weapons-related benefits not otherwise available to it. This means that any constraints on nuclear weapons tests by the nuclear-weapon States should be accompanied by appropriate constraints on PNEs, and by verification procedures adequate to assure that such constraints are being observed. None of the participants in our meetings disagreed with this general proposition.

The ultimate nuclear weapon testing constraint is, of course, an adequately verifiable CTB. During our meetings several States, including the United States, reaffirmed their commitment to this goal. If PNEs were to be accommodated under a CTB, a verification system would have to be devised capable of providing adequate assurance to all States that no weapon-related benefits were being acquired from PNE activities. Although there is general recognition of this problem, I think it is fair to say that we do not yet have a consensus on its solution. Further creative efforts to resolve the

technical, legal and political issues connected with PNEs are needed in the context of further constraints on the testing of nuclear weapons. Many States, both those with and those without experience in the field of nuclear explosives, can contribute to this important task.

CCD/PV.677 p.11

Yugoslavia/Lalovic

31.7.75

PNE

"In any technology, it is widely recognized that assumption that future rests on the extrapolation of the past only is a very dangerous supposition. In the case of PNE also, it is not entirely inconceivable that some form of sudden change in economic circumstances will make the existing PNE entirely feasible within a very short period of time. It is also possible that there appears some major technological breakthrough which renders current PNE technique to be very useful, or that some very unexpected use of nuclear explosion becomes a matter of daily practical use. Whatever international régime one prepares today should be so structured that such unexpected events may also be well taken care of".

One of the unfulfilled obligations of the nuclear-weapon States according to the Non-Proliferation Treaty is that deriving from article V, namely, that "Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States". When the treaty was drafted, the "appropriate international body" was not defined. The recommendation of the Review Conference for the NPT says that it is the International Atomic Energy Agency. The Agency could no doubt play an important role in this context. However, we share the opinion expressed in the working paper of the delegation of Japan, CCD/454, which says:

"What international body will be technically qualified to oversee, supervise, receive registration, carry out verification and pass final judgement on all the matters mentioned in this paper is another very important subject. Although everyone talks about the IAEA as the only existing and possibly qualified international organization, this in itself may not be sufficient to cover all the issues. Better definition of the structuring of the required international régime will become necessary". (CCD/454, p.6)

CCD/PV.678 pp.18-19

Iran/Fartash

5.8.75

CW

Thus, our discussion of two central issues, the scope of the prohibition and the definition of chemical warfare agents, seems to be making headway. At least a constructive exchange of views has taken place on these question. Further progress, however, towards agreement on a chemical-weapons ban depends on the question of verification. Once again we find ourselves between Scylla and Charybdis, between perhaps excessive requirements for international control and reliance on exclusively national control bodies. The issue differs slightly from that associated with other arms-control proposals in that both sides agree that control is necessary and that it is quite complicated. The disagreement hinges on the question of what body or bodies should exercise the control functions.

There are in fact two aspects to the verification problem: assuring compliance with obligations to cease chemical weapons production, and assuring the destruction of stock-piles. Much work has been done on the former issue and suggestions have been put

forward to make verification as unintrusive as possible. It has been suggested that national monitoring of the production of certain chemical compounds could constitute the basis of the control system to check production halts as well as compliance with allowed production. In this connexion the need to standardize methods of national accounting has been stressed. Other methods such as analysis of statistical data and literature-scanning have also received attention.

Fundamental differences arise, however, over the question of international verification of the national systems, over the degree and method of outside checking of national monitoring functions and eventually the need for some form of inspection. There is no question that some form of international assurance of compliance with the provisions of a chemical-weapons ban is needed for an effective agreement.

The question of verification of the destruction of chemical-weapon stockpiles presents an even more serious problem, for here some delegations insist on the need for international observation and others insist that such procedures would expose military and industrial secrets. In view of the fundamental importance of the destruction of stockpiles to the validity of a chemical-weapons ban, we would hope that this impasse would be overcome as quickly as possible.

CCD/PV.680 p.14 Bulgaria/Nikolov 12.8.75 PNE

Developments since May tend to substantiate the fears which underlie these important decisions. Some recent commercial transactions dealing with the sale of complete nuclear fuel cycle facilities, which have been assessed by many sources as potentially carrying high risks of nuclear proliferation, have confirmed the necessity for continuing vigorously and with a sense of urgency the efforts aimed at the strengthening and universalization of the NPT -- a system which fully meets the requirements of States willing to secure for themselves the benefits of PNEs, while at the same time taking appropriate precautions to eliminate the risks of proliferation.

It is because of these considerations that when we examined the thought-provoking working papers presented by different experts during the meetings devoted to the question of PNEs, we were not in a position to agree with some of the views contained in them.

As has already been noted by other representatives, some conclusions raise particular doubts. For instance, we question the wisdom of the idea of seeking a solution to the PNE problem outside the framework of the NPT and IAEA, i.e. outside the already tried and proven system of safeguards against nuclear proliferation. Having in mind the arms control implications of the PNEs, we firmly believe that the arrangements for the conduct of PNEs should be part of the existing NPT system, and that IAEA, as indicated in the Final Declaration of the NPT Review Conference, is the appropriate international body through which potential benefits from peaceful applications of nuclear explosions could be made available to any non-nuclear State.

CCD/PV.681 pp.26-27 Japan/Nisibori 14.8.75 CW

The second aspect of our working paper concerns the means and systems of verification, which is another key problem for concluding a chemical weapons convention. As to the means of verification, Finland has revealed in its working paper (CCD/453) that it is doing research on detailed and precise verification means by applying instrumental analysis methods including NMR-spectrometry. Attention should be drawn to the part of this working paper which refers to the method of analysing minute amounts of

phosphorus-containing compounds contained in samples collected at the site. We look forward to the day when the results of the study will be disclosed.

As to the verification systems, we have already submitted our idea to this Committee in the form of a working paper (CCD/430). This time our working paper offers as an illustration our existing national control system as to what we consider to be a concrete example of a national organ. This system (a) establishes a list of all chemical substances which exist at present in Japan, (b) requires the announcement in advance of new chemical substances that are intended to be produced or imported and which do not appear in the list, (c) examines the chemical substances thus reported and classifies them into harmless chemical substances and those which require control, and (d) thus observes only the chemical substances requiring control. An illustration is given in table 2 of the working paper.

Today we have submitted in our working paper a list of the chemical substances which have justification for peaceful purposes and an example of our national control system, and believe that we have thus marked a step forward towards solving the problems of the classification of chemical agents and of verification systems. We hope that our working paper will further stimulate the discussion of banning chemical weapons.

CCD/PV.683

pp.27-28

Netherlands/Meerburg

19.8.75

PNE

I will turn now to the second aspect of the arms control implications of peaceful nuclear explosions, the question of how to prevent PNEs from being misused for weapons tests by nuclear-weapon States, especially under test ban conditions. As I said before, the CCD was not in a position to study this question sufficiently pending the outcome of bilateral negotiations between the Soviet Union and the United States on the Threshold Test Ban Treaty. Still, the informal meetings have provided us with interesting information.

Let me first say that for a non-nuclear-weapon State like the Netherlands it is difficult to come to any definite views on the subject. However, from the discussions and our own assessment, my Government has come to the following conclusions:

- (a) In the case of a threshold test ban, it is sufficient to verify the yield of an explosion. If the yield is lower than the threshold, no further verification is necessary on the character of the explosion, e.g. military or peaceful.
- (b) Considerable verification problems arise, however, in the situation where the yield of the PNE is above the threshold. In this case it is not only necessary to verify that the explosion serves peaceful purposes, but also that no weapons-related information is obtained at the same time.
- (c) When a comprehensive test ban is in force, the same holds for all yields, since the threshold in this case is zero kilotons.

I admit that the second and third conclusions are mainly derived from information presented by the delegation of the United States. The Soviet representative stated in this Committee that, when a comprehensive test ban is achieved, a solution for the PNE problem can always be found. My Government would certainly hope that he is right, but as long as we do not obtain more technical information on how such a system could be set up, only somewhat conflicting views can be taken into account in our observations.

As is well known, the Netherlands considers the conclusion of a comprehensive test ban an extremely important goal in the field of arms control and disarmament. As far as I can see at the moment, PNEs would present serious verification problems in the context of a CTB. Although I admit that certain elements of a verification system could diminish the risk of misuse of PNEs for purposes of weapons development, I do not have the impression that a foolproof system can be developed. This brings us to the question

whether it would not be preferable to include both weapons tests and peaceful explosions under a comprehensive nuclear test ban.

Perhaps I may point out that under the Partial Test Ban Treaty of 1963 also, nuclear weapons tests and peaceful nuclear explosions are treated in the same way.

Under a ban on all nuclear tests, one could perhaps design a system under which, in exceptional cases, PNEs would be allowed, provided that, for example, an appropriate international organ would give its approval.

CCD/PV.683

pp.32-33

USSR/Roshchin

19.8.75

NFZ

The establishment of nuclear-weapon-free zones is an important means of limiting armaments and entails important obligations on the part of States which are members of the zone and of States which do not form part of the zone. The obligations assumed by all States parties to an agreement on a nuclear-weapon-free zone must be strictly observed. All parties to the agreement must be absolutely confident that all other States parties to the agreement are fulfilling the obligations they have assumed under the agreement and that the nuclear-weapon-free zone is indeed what it is described to be. It is therefore essential to establish effective control for verifying the observance by States of the obligations assumed by them under the agreements on such zones. The forms and methods of control should be considered and studied in all their aspects. The extensive and positive experience in such matters acquired by IAEA, which is responsible for control of the observance of basic obligations under the Treaty on the Non-Proliferation of Nuclear Weapons, should be used in solving problems of control over the implementation of agreements on nuclear-weapon-free zones. Control over the observance by States of their obligations under agreements on nuclear-weapon-free zones might be entrusted directly to IAEA in individual cases.

It is common knowledge that the solution of the problem of establishing a nuclear-weapon-free zone gives rise to a series of other problems. One of them is the question which arises when States intending to form or join a nuclear-weapon-free zone participate in military alliances. In this connexion, the Soviet Union considers it necessary to declare that the fact that a given State belongs to a military alliance cannot justify exemption from any of the obligations laid down for States joining a nuclear-weapon-free zone.

The establishment of nuclear-weapon-free zones in various parts of the world makes it necessary to solve in each individual case any problems which may be peculiar to the particular zone that it is proposed to establish. In this connexion, we should like to point out that the Soviet Union's position with regard to proposals for the establishment of nuclear-weapon-free zones in any part of the world will be determined, in each individual case, by the specific content of these proposals (geographical boundaries of the zone, its status, etc.) and by the attitude to these proposals adopted by other States, particularly the prospective participants.

As to the Treaty on the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco), the Soviet delegation notes that the Treaty has some important shortcomings, such as the admissibility of conducting peaceful nuclear explosions, contrary to the procedure established by the Treaty on the Non-Proliferation of Nuclear Weapons, failure to prohibit the transit of nuclear weapons through the territory of the zone and the extension of the scope of the Treaty to the area of the high seas, contrary to the generally recognized rules of international law.

These are the considerations which express the Soviet Union's position on the question of the establishment of nuclear-weapon-free zones. The Soviet delegation wishes to express its satisfaction at the fact that these considerations have been

reflected in the study on the problem conducted by the Group of Governmental Experts, the report on which has been submitted to the Committee on Disarmament and is now being considered.

CCD/PV.684 p.8

USSR/Roshchin

21.8.75 ENMOD

Article III states that the provisions of the convention shall not hinder the use of environmental modification techniques for peaceful purposes or international economic and scientific co-operation in the utilization, preservation and improvement of the environment for peaceful purposes.

Article IV lays down the obligation of the parties to the convention, in accordance with their constitutional processes, to take any necessary measures to prohibit and prevent any activity in violation of the provisions of the convention.

Article V provides for consultations between the parties to the convention in solving any problems which may arise in the application of the convention. It also provides for the right of the parties to the convention to lodge a complaint with the Security Council in the event of a breach by any State party of the obligations it has assumed and it includes an obligation of the parties to co-operate in carrying out any investigation of the complaint by the Security Council. The article also establishes the obligation to provide assistance, in accordance with the United Nations Charter, to a party to the convention which has been harmed as a result of its violation by any of its parties.

CCD/PV.685 p.26

Mongolia/Dugersuren

26.8.75 NFZ

...In that context my delegation endorses the view of most of the Ad Hoc Group of Experts, who have emphasized that States parties to a zone treaty must not themselves produce or acquire, directly or indirectly, any nuclear explosive devices for peaceful purposes and that they could receive peaceful-nuclear-explosion services from nuclear-weapon States with the assistance of IAEA in a manner consistent with the procedure envisaged by article V of the Non-Proliferation Treaty and by corresponding provisions in the treaty establishing the zone.

There is also the question of transit of nuclear weapons through such nuclear-weapon-free zones which has been a subject of divergent views. My delegation considers that such transit should be effectively excluded. This is important inter alia for the simple reason that the notion of transit is an ambiguous one and it may be easily stretched, to say the least. It may be a matter of a few hours or several days or even weeks and months. This is why my delegation, for one, thinks that any kind of acquiescence on the question of transit of nuclear weapons may put in jeopardy the vital security interests of the States which have established a nuclear-weapon-free zone having in view primarily this very end.

On the question of verification and control, my delegation would think it wise to base ourselves again on the consistency of the objectives of nuclear-weapon-free zones with those of the NPT. In other words, the NPT control arrangements should serve as the basis for the verification system of such zones. At the same time, my delegation thinks that there are some factors which would facilitate the solution of their verification and control arrangements.

First of all, one can assume that the very fact of establishing a nuclear-weapon-free zone indicates that there exists a large degree of mutual confidence between the members of the zone.

Further, I would venture to submit that zonal membership in itself carries a recogni-

tion of the right to mutual surveillance over each other's compliance with obligations undertaken.

CCD/PV.688 pp.17-18

USSR/Roshchin

17.2.76

CTB

A major task in the field of disarmament is to put an end to the nuclear arms race and to eliminate the threat of nuclear war.

In order to achieve progress in solving this problem, the Soviet Union introduced for the consideration of the thirtieth session of the General Assembly a proposal on the complete and general prohibition of nuclear weapon tests, and submitted the draft of a corresponding international treaty.

The draft provides for the prohibition of test explosions of nuclear weapons in all environments -- in the atmosphere, in outer space, under water and underground. This obligation must be assumed, first of all, by the States advanced in science, technology and industry and, of course, by all the nuclear Powers. It is only with the participation of all the nuclear States that the task of the complete and general prohibition of nuclear weapon tests can be accomplished.

Control over compliance by all the States parties to the above-mentioned treaty with their obligation not to carry out test explosions of nuclear weapons in any environment must be conducted through national technical means of control. An important supplementary means of control must be the development between the States parties to the treaty of international co-operation in the exchange of seismic data. If national technical means of control are used, and if international co-operation in the exchange of seismic data is developed, effective supervision and control can be ensured over compliance by the parties to the treaty with their obligation to stop all test explosions of nuclear weapons. In case any party to the treaty violates its obligations not to carry out such explosions, the United Nations Security Council will have to undertake an investigation upon the receipt of a complaint from the State which has ascertained a violation of the Treaty.

The complete and general prohibition of nuclear weapon tests must not, of course, create obstacles to benefiting from the peaceful uses of nuclear explosions. Nuclear Powers must carry out peaceful nuclear explosions in conformity with a procedure to be established under a special agreement. As for non-nuclear States, they can benefit from peaceful nuclear explosions in conformity with the provisions of article V of the Treaty on the Non-Proliferation of Nuclear Weapons. Of course, the carrying out of peaceful nuclear explosions must be subordinated to the task of preventing the spread of nuclear weapons. In the opinion of the Soviet Union, the procedure for carrying out peaceful nuclear explosions must be in keeping with the task of ensuring the non-proliferation of nuclear weapons. In establishing the procedure, it will be necessary to have due regard for the recommendations of IAEA, which is the most competent and qualified international body to work out such recommendations.

CCD/PV.688 pp.25-26

USA/Martin

17.2.76

ENMOD

It has been suggested that the convention should prohibit all hostile use of such techniques, regardless of their scale, duration, or severity. It has also been proposed that the threat, as well as actual use of environmental modification techniques should be prohibited. In considering these and other possible means of defining the scope of the convention, we believe that two essential conditions must be met: the prohibition must effectively overcome the serious dangers of the hostile use of environmental modifica-

tion techniques, and the prohibition must be defined in a manner that provides an adequate basis for determining whether or not a party is observing its obligations. We believe that the draft before the Committee meets these conditions.

A second important area for discussion concerns the provisions for resolving problems that may arise under the convention and for dealing with possible violations. Many delegations have emphasized the importance of having procedures that provide adequate confidence that obligations are being faithfully observed. For this purpose the draft convention would establish the right and obligation of parties to consult and co-operate directly or through appropriate international procedures in solving any problem; it would also set out a complaints procedure. These provisions are complementary, although each procedure may be used independently.

A number of delegations have criticized the reference to the existing machinery of the Security Council or suggested that special procedures be established to ensure that no investigation of a complaint would be subject to a veto. Some delegations may intend to propose alternative provisions. In examining this question, we believe the most important consideration is the practical effectiveness of the provisions in deterring violations in the first place and dealing with them if they occur. We believe the procedures in the draft convention satisfy these practical needs.

CCD/PV.689

p.9

Sweden/Thorsson

19.2.76

CTB

My delegation fails to see any insurmountable technical obstacles with regard to the verification of a CTB, a problem which purportedly so far has held up progress towards an agreement. Scientific progress in the field of seismology has been such that a global monitoring system for a CTB can be established to provide adequate deterrence to States parties to a Test Ban Treaty from carrying out clandestine testing. In the opinion of the Swedish delegation, it is possible to establish a monitoring system by which most earthquakes and explosions corresponding to a yield of about 1 kt can be detected, located and identified with a high degree of accuracy. This figure, incidentally, stands in drastic contrast to the 150 kton figure established by the Threshold Test Ban Treaty. In our view, the possibility of involving the United Nations in the operation of such a system should be explored.

Already in 1971, the Swedish delegation together with eight other delegations, in a joint memorandum to the CCD (CCD/354), expressed its conviction that the verification problem could be resolved on the basis of national means, i.e. remote control supplemented and improved upon by international co-operation and procedures.

CCD/PV.691

p.15

USA/Martin

4.3.76

ENMOD

The provisions in the draft concerning compliance include two separate and complementary procedures. First, all parties undertake to consult and co-operate in solving any problems which may arise in relation to the objectives of the convention or in the application of its provisions. Thus, parties have not only a right but an obligation to consult one another and to co-operate; this consultation and co-operation may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. In our view, this procedure should provide an adequate means for solving most if not all differences that might arise between parties.

In addition, and independently of the consultation procedure, any party may lodge a complaint with the Security Council of the United Nations if it finds that any other

State party is in breach of its obligations under the convention. In addition, all parties undertake to co-operate with any investigation which the Security Council may initiate. These undertakings establish a strong presumption that no party will take action to impede or obstruct such an investigation. We believe that these procedures satisfactorily meet the need of all parties to assure adequate confidence of compliance with the terms of the convention.

CCD/PV.692 p.20

Japan/Ogiso

9.3.76 CTB

....I would like to suggest a measure for concluding a multilateral agreement on banning underground nuclear weapon tests, starting from the threshold Treaty between the United States and the Soviet Union. For I consider that the threshold Treaty is not complete in itself in our efforts to solve the question of a comprehensive test ban, and that it is essential to conclude a multilateral treaty on an underground nuclear weapon test ban which will include all States -- among them, all nuclear-weapon States -- as Parties. The measure which my country would like to suggest is that this Committee should be given two tasks, namely, (1) to examine the possibility of expanding the threshold Treaty into a multilateral agreement, and simultaneously (2) to try to lower the threshold of 150 kilotons provided for in the threshold Treaty. As to the first stage of developing the threshold Treaty into a multilateral one, there would be no basic difficulty now that the United States and the Soviet Union have concluded the bilateral threshold Treaty. In this case, we may be able to adopt most of the text of the threshold Treaty in the new multilateral treaty. As to verification which is the main point of concern, this multilateral treaty would adopt in principle the provisions of article 2 of the threshold Treaty, and the detailed substance as provided for in the Protocol to the Treaty can be left likewise to the additional protocol to this multilateral treaty. In elaborating provisions on the implementation of the details, if some tangible results are to be obtained at the expert meeting which is scheduled to take place this year, we should consider using such results fully. Also, taking into consideration that this new treaty will be a multilateral one, it would be desirable to establish a verification committee consisting of a few States including the nuclear-weapon States, and for the nuclear-weapon States to exchange through this committee such data or information as provided for in the Protocol to the threshold Treaty. Alternatively, the implementation of the details as provided for in the Protocol to the threshold Treaty may be left to a separate agreement or agreements to be concluded among the nuclear-weapon States as in the case of the Protocol to the threshold Treaty. In either case, it is desirable to establish a verification committee consisting of the nuclear-weapon States and a few non-nuclear-weapon States, and to arrange for Parties to this multilateral treaty to be informed of any violation or doubts about the violation of the treaty obligations through this verification committee. In both cases, if agreement is to be reached to establish a verification committee, the Committee on Disarmament should discuss and decide on its composition, mandate and other related matters.

CCD/PV.692 pp.33-35

Netherlands/van der Klaauw

9.3.76 ENMOD

In scientific circles in the Netherlands, some ideas were suggested on the first steps towards an international system for the regulation of peaceful applications of environmental modification techniques, which seem to have some bearing on our discussions here. According to those circles, all theoretical and laboratory research in the field of environmental modification need to be discussed openly and with great freedom of publi-

cation in scientific literature. Secondly, with respect to field experiments, countries could announce in advance their plans with respect to such experiments. Preferably, scientists from other countries would be invited to these field try-outs, according to those ideas. In this connexion I was glad to hear that all United States research in the field of environmental modification is conducted on an unclassified basis. I may also point out that the World Meteorological Organization keeps, if I am well informed, a register of all activities in the field of weather modification. In such an open system there is, in my personal view, no place for research and development for the hostile applications of environmental modification techniques.

Still talking about the peaceful application of environmental modification techniques, I wholeheartedly agree with the United States view that there is no need to incorporate an article along the lines of article X of the Biological Weapon Convention. The treaty under discussion needs not to encourage parties to develop and use environmental modification techniques for peaceful purposes.

My delegation wonders if there is a need for article IV. Perhaps other countries could indicate the domestic requirements for the implementation of such a treaty. I may say already that for the Netherlands article IV does not seem necessary and could eventually even lead to a considerable delay in the ratification of the treaty. The adaption of our internal laws or the setting up of new ones is a time-consuming process in my country. Perhaps, the co-sponsors could also indicate what kind of internal measures they have in mind for implementing the treaty.

My Government already indicated that it is not happy with some of the provisions of article V of the draft convention. This does not apply, of course, to article V, paragraph 1, to which we wholeheartedly agree, but to the fact that the Security Council is the only organ mentioned which could consider evidence presented by a complaining party that the treaty could have been violated and which could initiate an investigation. Of course, my Government would not want to diminish in any way the powers of the Security Council as given to it in the Charter. It has, however, objections to the fact that the Security Council would be the only body that could investigate a complaint. To mention a few objections:

- (a) The investigations could be vetoed by permanent members of the Security Council, even by the accused himself.
- (b) Countries member of the Security Council would decide on the implementation of a treaty to which they are not necessarily a party. Some non-parties could even veto an investigation.
- (c) The Security Council is the highest body in the field of international security. A State would be reluctant to lodge a complaint with the Security Council if it did not possess conclusive evidence that a violation of the treaty had occurred. In particular in the field of environmental modifications, however, conclusive evidence about the hostile intent thereof will often be very difficult to find without at least an extensive expert investigation.

It is therefore my Government's opinion that the complaints procedure mentioned in the draft convention is unsatisfactory and does not form a good precedent for future treaties in the field of arms control and disarmament. We need an intermediate body to which States party to the treaty could complain and which could investigate the matter on an expert basis before the Security Council would be involved.

It is clear that our problems would already have been solved if Swedish and Netherlands proposals with respect to the establishment of a disarmament agency some years ago would have been adopted. I may refer, for example, to the Netherlands statement on 31 July 1973, and to document CCD/410. Such an agency would have been perfectly fitted for the required task. Although, of course, we are still in strong favour of such an agency, it is perhaps realistic to assume that it will not be established in the near

future.

For the moment, therefore, my Government would prefer that the Secretary-General of the United Nations be given the fact-finding powers which we need in this convention. The Secretary-General could be assisted by experts coming from the relevant specialized agencies and scientific organizations. I may remind the Committee that proposals of this kind were also made during the negotiations on the Biological Weapon Convention but were not generally approved by the Committee. Keeping this in mind, I may perhaps make the suggestion that a Committee, consisting of parties to the treaty, could perhaps assist the Secretary-General in his fact-finding task. The powers of this Committee need not be spelled out too much in the treaty itself. Parties could direct their complaints to the Secretary-General and/or the committee and all parties would accept the obligation to co-operate with the Secretary-General and the committee. The committee would take decisions by a majority of votes or, if that is to be preferred, by a two-third majority. The committee could also advise the Secretary-General on the steps to be taken after the complaint is investigated, for example to report to the Security Council. The committee could also make preparations for the regular review conferences and report to these conferences on the implementation of the treaty. I may point out that in other multilateral agreements, for example in the field of human rights, committees of parties also oversee the implementation of the instruments involved. I may also refer to the standing Consultative Commission provided for the SALT-I ABM-Treaty.

It seems impossible to lay down the composition of the committee in the treaty itself, since it will not be known beforehand which States will become a party to the treaty. Thus, the committee can only be established after the entry into force of the treaty. To this end, the depository Power(s) would convene a short conference of the parties, within a specified time after the entry into force of the treaty, with the sole purpose of electing the committee and establishing some of its basic procedures. The committee could, for example, consist of 10 to 15 States, including the permanent members of the Security Council which are a party to the treaty. Composition of the committee could be changed during regular review conferences, which seem needed in any case to take into account new developments in the field of environmental modifications. An alternative solution would be that the committee consists of those parties which are also members of the Security Council. This solution has the advantage that the composition of the committee would be fixed by the treaty itself and that the membership would change more often. However, in that case we run the risk that at times the committee could be rather small when not many parties would be members of the Council.

CCD/PV.693 p.11

Hungary/Domokos

11.3.76 CTB

The position of my Government on the cessation of underground nuclear weapon tests has been expressed in detail in and outside this Committee. The CTB treaty should be concluded as soon as possible with the participation of all nuclear Powers. As for the disputed question of control over compliance, we continue to believe that national technical means, supplemented with organized international co-operation in exchange of seismic data, could provide the necessary verification. We share the view of the distinguished representative of Sweden, Under-Secretary of State Mrs. Thorsson, who stated at our 689th meeting:

"Scientific progress in the field of seismology has been such that a global monitoring system for a CTB can be established to provide adequate deterrence to States parties to a Test Ban Treaty from carrying out

clandestine testing" (CCD/PV.689, p.9).

CCD/PV.694 p.10

Mongolia/Dugersuren

16.3.76 CTB

As everyone knows, lack of political will on the part of some western Powers is the main reason for the impasse in efforts to solve the problem of the comprehensive prohibition of nuclear weapon tests. To justify their position, these Powers continue to insist on the necessity of "on site" inspection to control the implementation of an agreement.

Meanwhile, evidence is being produced that national means of detection and identification, supplemented by international co-operation in the exchange of seismological data, are quite sufficient for this purpose.

In her statement at the 689th meeting of the Committee, Mrs. Thorsson, the representative of Sweden, speaking on the possibility of solving the problem of control through national means, said:

"...it is possible to establish a monitoring system by which most earthquakes and explosions corresponding to a yield of about 1 kt can be detected, located and identified with a high degree of accuracy."

(CCD/PV.689, p.9)

It seems to us that the figure 1 kt convincingly speaks for itself.

CCD/PV.694 pp.14-15, 19

Bulgaria/Nikolov

16.3.76 CTB,ENMOD

At the last session of the General Assembly, the Soviet Union offered the means which could lead to the prompt conclusion of an international agreement on the complete and general prohibition of nuclear-weapon tests. The draft treaty submitted by it for this purpose has the advantage that it: (a) treats the problem in a comprehensive way; (b) provides for adequate means of ensuring compliance; and (c) takes into consideration the arms control implications of peaceful nuclear explosions, while avoiding at the same time the inflation of this issue and the raising of it to the level of an additional obstacle to a CTB.

We are cognizant of the various ideas for intermediate steps in this field. We believe, however, that in the present circumstances the problem of the nuclear weapons test ban, because of its very nature, calls for a comprehensive solution. Another approach, such as the selective one, no matter how well-intentioned, would be unrealistic.

We continue to hold the view that the verification and control of the observance of a future CTB Treaty could be fully secured by national means supplemented by international exchanges of seismic data. In this respect we were heartened by the statement made on 19 February, by Mrs. Inga Thorsson, the representative of Sweden, who reaffirmed the conviction expressed in the 1971 joint memorandum of nine non-aligned countries (CCD/354) that the verification problem "could be resolved on the basis of national means, i.e. remote control supplemented, and improved upon by international co-operation and procedures" (CCD/PV.689, p.9).

Positions along these lines have been taken by many authoritative scientists and prominent statesmen around the world, including the United States. For instance as far back as 1973, Senator Edmund Muskie, dwelling on the CTB problem before the United States Senate, said: "The fact is that our seismic research during the last decade has paid off handsomely, and the Administration position of supporting a test ban with on-site inspections rests on extremely weak grounds". We hope that the meeting of experts to be held in the course of the current session will further clarify this issue and

thus help in the removal of one of the basic obstacles to a CTB.

Lastly, we don't consider that it would be justified to modify the complaints procedure as envisaged in article V of the identical drafts. This formula, which involves the United Nations Security Council, follows almost word for word articles V, VI and VII of the Convention on bacteriological weapons, and we don't see why, if it is expected to work satisfactorily within that context, it should be deemed inadequate for the purposes of the environmental convention. Besides these procedures are based on the Charter of the United Nations, and it would be unrealistic to try to introduce changes in them.

CCD/PV.695 p.10

Argentina/Berasategui

18.3.76 ENMOD

Thirdly, it has also been stated that the use of the terms in question will ensure that the prohibition will be implemented faithfully and will not give rise to friction and controversy over trivial issues.

There seems to us to be a blatant contradiction in this approach. On the one hand, verification is of decisive importance in determining the scope of the ban, while on the other hand -- and here I am referring to article V, paragraph 2 -- the effectiveness of such verification is reduced by making it subject to the veto of the permanent members of the Security Council. In any event, as Ambassador van der Klaauw demonstrated, the importance attached to verification in determining the scope of the ban is questionable.

As regards the so-called "trivial issues", we should like to point out that such issues arise not from the scope of the ban but from a lack of mutual trust among the parties to a convention. We do not believe that the chances of such issues arising in this case are greater, for instance, than in the case of the far broader ban on bacteriological and toxin weapons. We have not heard of any trivial issues having been raised under the Convention on that subject.

Nor can it be maintained that the scope of the ban on bacteriological and toxin weapons was influenced by the real prospects of ensuring effective verification, especially as regards such activities as research and development.

Furthermore, in the event that a particular State is concerned over a possible or suspected violation, the draft conventions themselves provide an adequate solution by making it obligatory for the parties to consult one another and to co-operate in solving any problems which may arise. As Ambassador Martin stated:

"this procedure should provide an adequate means for solving most if not all differences that might arise between parties." (CCD/PV.691, p.15)

In our view, it is through consultation and not through such an uncertain limitation of what is to be prohibited that friction and controversy will be eliminated.

CCD/PV.695 pp.16-17

Czechoslovakia/Vejvoda

18.3.76 NPT,CTB

The NPT is rightly regarded as one of the most important disarmament measures concluded so far. We have to continue our efforts with the aim of achieving its universality. On the other hand we must not keep our eyes closed when some countries for purely commercial reasons endanger some basic elements of that treaty. Our profound thanks should to the IAEA for its achievements in the field of safeguards and its endeavour to extend these safeguards into the field of the transfer of fissionable material. The Czechoslovak Socialist Republic actively supports the work of the IAEA, with which it fully co-operates. Needless to say, we are ready to pay attention to every

other means of co-operation directed to these ends. We also fully support the active engagement of the IAEA in the examination of the legal, technical, environmental and health-protection implications of the so-called peaceful nuclear explosions, in accordance with article V of the NPT.

We see a close connexion between the problem of nuclear weapons and the proposal for the conclusion of a treaty designed to achieve a comprehensive test ban. The Secretary-General of the United Nations, Dr. Kurt Waldheim, in his message addressed to the Committee, stressed the importance of this matter. The cessation of nuclear and thermonuclear tests and the conclusion of a relevant treaty can contribute most effectively to stop the nuclear arms race and is therefore closely connected with article VI of the NPT, as is clearly implied in resolution 3466 (XXX). As far as this problem is concerned, we would like to express our belief that all nuclear-weapon States should start the negotiations to which the General Assembly of the United Nations invited them, and that they should call upon another 25-30 non-nuclear-weapon States to participate. It is our hope that in the interest of progress in this so important issue, the negotiations will start as soon as possible. However, we also consider that the CCD should not stand aside, and should pay full attention to this issue as well. From this point of view we appreciated the statement of the Under-Secretary of State of Sweden, Mrs. Thorsson, at the 689th meeting of the CCD, who devoted great attention to this problem. Czechoslovakia with its advanced seismographic system has expressed its readiness to participate in the international system of exchange of seismographic information, in the so-called international detection club, which could achieve a satisfactory level of verification of the CTB. My Government continues to be of the opinion, expressed in the above-mentioned statement by Mrs. Thorsson, that the verification problem of the CTB could be resolved on the basis of national means. The very constructive approach contained in the Soviet draft proposal could very well form a basis of deliberation on this item in the CCD. It would provide a comprehensive solution of that matter and therefore it deserves the full attention of the Committee.

CCD/PV.695 p.20 USSR/Roshchin 18.3.76 CTB

....The Soviet side has frequently stressed in its statements in the Committee on Disarmament and at the sessions of the General Assembly that for solving the problem of control over the prohibition of all nuclear weapon tests enough technical studies have been carried out to show that such control can be effected by national means of detection supplemented by the international exchange of seismological data. If such tests are to be stopped, there must be a political decision, based on the willingness of all the nuclear Powers to refrain from carrying out nuclear weapon tests.

CCD/PV.695 pp.24-25 UK/Allen 18.3.76 ENMOD

We have listened with interest to the views of different delegations about the complaints procedure of the convention. There are, as we see it, two sides to this problem. On the one hand, we believe that it will be desirable to provide some deterrent against the escalation of minor complaints into major issues. On the other hand, immediate recourse to the Security Council would have the effect of politicizing a question which might be soluble by means of technical investigation. We listened with interest to Ambassador van der Klaauw's proposal for a committee of countries which would assist the Secretary-General in the handling and investigation of complaints. This is a novel and unconventional approach. It may be an appropriate way of dealing with a

problem which is itself unconventional; though there may be equally effective ways of providing for complaints without breaking so much new constitutional ground. We shall want to think this over carefully and to study the views of other delegations.

Article VI of the convention seems to us to need rather tighter drafting in order to prevent over-hasty or even discriminatory changes in the text. We suggest that it might be required that any amendments should be sponsored by at least ten States and should require the support of two-thirds of the original signatories before coming into force.

A number of delegations have said that there should be provision for the review of the convention. We agree. The very fact that we are trying to legislate about techniques which hardly exist makes it likely that the formulations which we build into the convention, however apt, will be overtaken or proved wanting by scientific developments which we cannot foresee. On the other hand, we are not in favour of review conferences with little or nothing to discuss. Such conferences can only call into question the validity of the convention concerned and the seriousness of purpose of those countries party to it. It is at present not possible in our view to foresee when a review conference would become necessary. We therefore propose that the convention should include an article which would make provision for review conferences but would lay it down that a review conference could be held at the request of, say, 50 per cent of the States parties to the convention with a minimum of, say, three years between conferences and a maximum of ten.

CCD/PV.697

pp.12-13

FRG/Schlaich

25.3.76

ENMOD

I should like now to discuss the complaints procedure. Already in the First Committee, at the thirtieth session of the General Assembly of the United Nations, we have set out our reservations regarding the complaints procedure as envisaged in the draft, and we have emphasized that provision must be made to ensure that it cannot be blocked by the veto of the permanent members of the Security Council.

To spell out our thinking on this matter more clearly we should like to draw attention to the following problems: arms control treaties which do not provide for a proper verification procedure but simply for complaints to be lodged with the United Nations Security Council can hardly claim to have made available the necessary instruments to ensure verification. One example along these lines is the Convention on the Prohibition of Bacteriological Weapons. As we stated at the time, we do not envisage the complaints procedure provided for in that Convention as a model for future arms control treaties, and we regret that both the present draft convention on the prohibition of environmental warfare, as well as another draft submitted at the last session of the United Nations General Assembly, adopt the procedure provided for in the Convention on Bacteriological Weapons.

Not only general consideration of arms control policy but also the equality of States provide grounds for reservation regarding the envisaged complaints procedure, as it would not exclude the possibility of the veto right of certain States being extended to the field covered by the convention now under consideration. The unique structure of the Security Council can be understood only in the context of the special powers assigned to this body under the United Nations Charter. This structure is closely linked with the spheres covered by the Charter and is not appropriate for other spheres subject to contractual regulation. Also for this reason we believe it would be proper to establish, for verification and complaints procedures under the convention, a separate body outside the United Nations system. Another point in favour of this solution would be that States which are not members of the United Nations could also become parties to the convention. Any State with a complaint would, of course, be free to submit it to

the Security Council, where the conditions for such a step laid down in the United Nations Charter are fulfilled.

The scientific complexity of the subject matter of the convention and its largely unresearched nature also argues for the setting up of a special verification committee. A body concerned solely with the verification of this convention could concentrate more on keeping up to date with relevant scientific and technological developments than the Security Council, which has many other problems to deal with. The consideration that the detection of a variety of conceivable violations of the convention might be possible only after many years of observation -- the example of changes in climate patterns with hostile intent might be cited here -- also points to the establishment of a special verification committee. Such a committee should be composed of a limited number of representatives of States which have ratified the convention. Its composition would naturally also have to reflect the different regional and political characteristics of the contracting parties.

The task of the verification committee would be to establish as far as possible the facts of the case. All States party to the convention should undertake to co-operate at any rate by providing the necessary information. Where there is no alternative, on-site inspection should not in principle be excluded. Our aim is to establish a body capable of carrying out the tasks assigned to it. For this reason the complainant as well as the representative of the State against which the complaint is directed should abstain from voting on the decisions of the committee. The aim should be to take decisions by consensus, but if this cannot be achieved it should be possible to adopt a recommendation by a majority of votes. If the verification committee concludes that a serious violation of the convention has occurred which might, depending on the circumstances, necessitate Security Council action, it would be obliged to submit its findings without delay to the Security Council.

The procedure we propose would have the advantage that at least the investigation of a complaint could not be blocked right from the beginning. Nor, incidentally, would the powers of the Security Council be curtailed.

The composition of the verification committee and its powers must, of course, be the subject of detailed further discussion. We do not feel it would be appropriate at this stage to be more specific until it is clear whether there is sufficient support for these suggestions among the CCD member States. We would be grateful for a considered response to our suggestions and welcome comments which will make possible further progress.

CCD/PV.697

pp.23-26

Sweden/Thorsson

25.3.76CW,ENMOD

If a more generally agreed view concerning agents to be included in a treaty is appearing, then it is high time to devote efforts to determine what other chemical warfare activities should be within the scope of the treaty. After all the chemical agents, the chemical substances as such, are only a part -- and perhaps only a minor part -- of a chemical warfare capability.

Some of the related problems were discussed by Ambassador Rosenberg Polak of the Netherlands on 27 April 1972:

"First of all, for those countries that now have an operational capability for chemical warfare the total elimination of chemical weapons would logically result in changes in military doctrine, training and equipment. Probably those changes would to some degree be perceptible without intrusive measures of verification, provided, however, that chemical disarmament were comprehensive. On the other hand, if a CW agreement

would permit armies to remain equipped with certain types of chemical weapons, there would be no or only some ambiguous side-effects of the kind I referred to" (CCD/PV.560, p.8).

A Swedish working paper (CCD/395) on amplified verification envisages e.g. offensive military training as a forbidden activity. Furthermore -- and maybe of even greater importance -- in the last couple of years the question of binary chemical weapons has raised uncertainties regarding the question of military preparedness.

We must keep in mind that a treaty banning chemical weapons is a very serious matter involving high degrees of national security. We cannot expect any State to accept a treaty, where it cannot feel adequately secure as to whether the implementation is observed by other States parties. Thus we have to realize that considered methods of finding indications of possible violations that may serve as starting points for discussions in agreed form on more intrusive verification measures, such as verification by challenge or outright on-site inspection. It is important to devise confidence-building measures, but it is at the same time necessary to tackle the main verification problems, even if we know that a reliable verification structure will be difficult to arrive at.

With regard to verification a most disturbing incident occurred recently, i.e. the production of a nerve agent by criminals in Austria. It has now been shown that such production can be undertaken privately, e.g. by terrorist groups. This incident points both to the need for and the difficulty of providing for adequate verification of prohibited production of chemical warfare agents. In the case referred to, the police luckily found out about the activity before it was too late. The case also points to the need for adequate protection not only in military connexions, but also that society may need to draw upon military protective experience, the fact being that adequate protection drastically reduces the threat posed by the use of chemical weapons. States will have to bear a heavy responsibility in creating control systems against the occurrence of acts of this kind.

If the verification methods discussed so far in the CCD mainly have been "non-intrusive", we nevertheless find that they can be of some value. It remains for States to test them and to give their opinion on their possible use. But we still have to find and to agree upon more effective methods. In this connexion and before concluding this part of my statement I would like to revert to the proposed experts meeting. It might serve as a new start. We for our part would like to remind the members of the CCD of the need for getting rid of existing stockpiles of chemical weapons under a treaty. For the fulfilment of this activity it is obvious that some kind of on-site verification is necessary. These questions have partly been discussed earlier and several working papers touching on the subject have been tabled through the years. We think, however, that this might be a field where new developments may help to solve our difficulties. Accordingly, we would appreciate it if this issue could be considered during the coming experts meeting.

I turn now to some comments with regard to the draft convention on the prohibition of military or any other hostile uses of environmental modification techniques, submitted to the Committee by the Soviet Union and the United States.

During last year's General Assembly session, I had the opportunity of stating the Swedish position with regard to several provisions of the draft. The text of that statement has been circulated to delegations. Consequently, I do not deem it necessary to repeat here in great detail all the points raised in that statement. In view of the penetrating discussion of the matter in Ambassador Martin's interesting statement of 4 March 1976, it might be useful for the sake of clarity to touch on some of the points which we have raised before.

First, I would like to dwell somewhat on the important question of compliance with

the provisions of the convention. This is an issue of high general significance for the entire field of disarmament. What I have to say in this regard is thus also relevant to our position both on the renewed discussion of an international agreement to prohibit the development, production and stockpiling of all chemical weapons and the proposal for an agreement on the prohibition of the development and manufacture of new types of weapons of mass destruction.

My delegation agrees with Ambassador Martin that special emphasis should be laid on the consultation procedure foreseen in article V.1 of the draft. It is important to distinguish between technical fact-finding and a political complaints procedure. In our view the reference to consultation and co-operation within the framework of the United Nations should be strengthened and amplified. The paragraph should preferably include certain rules about international exchange of information, thus specifying considerably the present vague wording about the duties of parties to "co-operate" and "consult" in the interest of verification. This co-operation may consist of a sequence of inquiries, exchange of information and other suitable methods of verification agreed upon.

With regard to the second part of article V.1, some international machinery should be indicated which can serve as a guarantee for States parties to the treaty that objective verification procedures are available at the international level before a matter is referred to the Security Council. We are interested in the idea, mentioned in this debate by the distinguished Ambassador of the Netherlands, of entrusting such a function to the Secretary-General of the United Nations, assisted by a group of experts appointed by him and drawn from States parties to the treaty.

In our view a recourse to the Security Council should be preserved as the last resort.

We have thus no difficulties in accepting the principles that the Security Council be given the possibility to consider a complaint about breach of treaty obligations, but my Government continues to oppose the complaints procedure through the Security Council as proposed in the draft.

The suggested procedure contains in fact, if not in form, an element of inequality between States, permanent members of the Council, and others. We have always considered this feature of the B-weapons Convention as an unfortunate relapse into unequal treaty relations. Provided that the political will exists to solve this problem — common, I think, to all States non-permanent members of the Security Council — the deficiency could, in our view, easily be remedied if the initiation of an investigation by the Council is seen as a procedural matter for which the right of veto would not apply. This principle should be stated in article V.2. My delegation will insist on a change in this direction during the negotiations to take place later this year.

CCD/PV.698

pp.18-20

USSR/Roshchin

30.3.76

ENMOD

Under article III of the draft, the convention is not to hinder the use of environmental modification techniques for peaceful purposes, or international economic and scientific co-operation in this field. At the same time, it seems to us that the convention should not touch upon complex questions of the procedure for regulating peaceful activities and international exchanges in this sphere. Besides, these matters are outside the field of competence of the Committee on Disarmament.

We consider that, in its present form, article III of the draft duly reflects this approach to the problem of peaceful activities in the area under consideration.

Those who spoke on the draft convention in the Committee devoted considerable attention to the provisions concerning the measures that may be taken in the event of a breach of the obligations deriving from the convention. These provisions, which are set

forth in article V of the draft convention, provide for the obligation of States parties to the convention to consult one another and to co-operate in solving any problems which may arise in the application of the convention, and for the possibility of lodging a complaint with the Security Council if any State party acts in breach of its obligations under the convention.

The procedure proposed in the draft convention for lodging complaints with the United Nations Security Council is the most appropriate and practical one. Under the United Nations Charter, the body responsible for maintaining peace and security is the Security Council. In accordance with its powers, the Council will determine, on the basis of article V of the convention, the procedure for considering complaints received by it regarding the violation of the convention.

A few delegations, speaking on the said draft convention, have made some critical observations and comments on that part of article V which deals with the consideration of complaints against a violation of the convention. Thus, the representative of the Netherlands, Ambassador van der Klaauw, stated that his Government is not at all happy with the fact that the Security Council would be the only body that could consider complaints against a violation of the convention and carry out an investigation. He spoke in favour of creating an "intermediate body" for the preliminary consideration of complaints, with the co-operation of experts. He suggested that the Secretary-General of the United Nations should be given fact-finding powers in the event of a violation of the convention, in which task he would be assisted by a committee, composed of parties to the Treaty.

The Soviet side considers that the procedure for solving problems arising from a violation of the convention, dealt with in article V of the draft convention, is fully justified. This procedure is based on generally accepted rules of international law, namely: on the use of an appropriate international procedure within the framework of the United Nations and in accordance with its Charter. The procedures established in the United Nations Charter for considering problems of the maintenance of international peace and security represent the most perfect expression and application of the universally accepted rules of international law, which most fully express the real means and possibilities regarding the settlement of controversial international issues and situations. These rules have acquired universal recognition, as expressed in the broad membership of States in the United Nations and in their recognition of the United Nations Charter.

Moreover, the procedure for investigation proposed in the draft convention has already been widely adopted in international practice. It has been adopted in a number of international agreements concluded on the limitation of arms and on disarmament, and prepared within the framework of the Committee on Disarmament. Thus, article III of the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof provides, in particular, for consultation and co-operation between the parties to the Treaty if any doubts arise concerning the fulfilment of the obligations assumed under the Treaty. If such consultation and co-operation do not remove the doubts, a State party may, in accordance with the provisions of that article, refer the matter to the Security Council for consideration. The convention on the prohibition of bacteriological and toxin weapons (articles V and VI) provides for the same procedure for the consideration of complaints against a violation of the convention as is proposed in the draft convention on the prohibition of environmental modification techniques for hostile purposes now under consideration in the Committee.

Some remarks have been made in favour of giving the United Nations Secretary-General fact-finding powers in the event of a violation of the convention. The Soviet side does not share this attitude. The Secretary-General is the chief administrator of

the Organization and it does not seem appropriate to enlist his aid in resolving questions and situations which are sometimes not only of a technical nature, but also political.

It has been argued that it would be inappropriate to lodge complaints directly with the Security Council, since "A State would be reluctant to lodge complaints directly with Security Council if it did not possess conclusive evidence that a violation of the treaty had occurred". (From the statement by the representative of the Netherlands, Ambassador van der Klaauw (CCD/PV.692, p.34).

In this connexion, we should like to note that article V, paragraph 1, of the draft convention provides for procedures other than the lodging of complaints to the Security Council, namely: consultation and co-operation of States parties to the Convention in solving any problems which may arise in connexion with the application or violation of the convention. A complaint would be lodged with the Security Council only after all other possibilities of dealing with a controversial issue or situation, either by direct consultations between the interested parties, or by the use of appropriate international procedures within the framework of the United Nations and in accordance with its Charter, had been exhausted.

The establishment of an intermediate body would create complications of a political and legal nature at the international level.

For the reasons I have stated, the Soviet side does not share the opinion expressed regarding an alteration of the procedure -- provided for in article V of the draft convention now being considered by the Committee on Disarmament -- for solving problems arising from a possible violation of the convention on the prohibition of the use of environmental modification techniques for hostile purposes.

CCD/PV.699 p.14

Canada/Barton

1.4.76

ENMOD

We are conscious of the problems raised by the complaints procedure as proposed in article V, paragraphs 2 and 3, of the draft, but we are doubtful that it will be possible to find a better solution that will be generally acceptable, and, at this stage, we have no particular comments or suggestions to advance on this subject.

We would, however, propose for consideration some minor amendments to the language of article V, paragraph 2. As now worded, article V, paragraph 2, enables a State party to the convention to lodge a complaint with the Security Council when it "finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention". There may be situations in which a State will strongly suspect that a breach is taking place but will not be prepared to make a judgement because of insufficient evidence. It would therefore appear desirable to allow a State to lodge a complaint with the Security Council when it "has reason to believe" that another State party is acting in breach of its obligations, and to require that such a complaint "be accompanied by all relevant information" rather than "include all possible evidence confirming its validity" as now appears in the text. Moreover, the words "finds" and "evidence confirming its validity" in the present text would appear to prejudge the validity of any complaint that may be lodged. With these suggested amendments, article V, paragraph 2, would read:

"Any State Party to this Convention which has reason to believe that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should be accompanied by all relevant information and a request for its consideration by the Security Council".

We think it is high time to finally come to grips with the remaining problems still considered to be in the way towards a CTB. Many proposals have been put forward in this matter in the CCD over the years. I can refer here to the working paper which was submitted by my delegation on 2 September 1971 (CCD/348) containing suggestions as to possible provisions of a treaty banning underground nuclear weapon tests. I wish also to refer to the memorandum of 30 September 1971 (CCD/354), where nine non-aligned delegations including Sweden expressed their conviction that the verification problem could be resolved on the basis of national means alone, i.e. remote control supplemented and improved upon by international co-operation and procedures.

The Swedish written contribution to the coming experts meeting has for practical reasons been presented as two separate working papers, although they are conceptually closely related to each other. The first paper (CCD/481) is divided into three chapters. The first chapter deals with the background and present status of the test ban issue. We have not attempted to give a complete account of this highly complex matter, but rather to highlight certain important developments.

A main point, which I wish to emphasize here, is that all technical verification obstacles against a CTB seem to have been removed.

Furthermore, at the political level the concept of recognized mutual monitoring of arms control measures by national means has been recognized in the SALT framework. We have also noted that the Soviet Union in its recent CTB proposal in the General Assembly has indicated its readiness to co-operate in an international exchange of seismic data. The detailed bilateral control clauses of the Threshold Test Ban Treaty show how much easier -- as compared to some years ago -- it has become for the super-Powers to agree on control procedures.

At the same time, we must again voice our profound regret that no progress has been achieved so far in the efforts to reach a CTB, despite repeated official statements of the desirability of such an agreement by the Governments of the leading nuclear-weapon States. We must ask these Governments why do their nuclear weapon tests continue, when serious attempts are being made to strengthen the non-proliferation régime? Are these tests really considered necessary to maintain the present strategic balance and to preserve the overwhelming nuclear superiority of these two States?

In the second part of the working paper a detailed analysis is given of the various problems in connexion with the monitoring of a CTB, with the emphasis on the technical aspects. This account serves to underline our point of view that no real verification obstacles against a CTB can be said to exist. In the paper, reference is made to the developments of seismology, where explosions down to one kiloton in hard rock can now be detected and where also weak explosions with a high probability can be distinguished from earthquakes. Finally, in the third chapter of the paper, a short introduction is given to the second working paper (CCD/482), which deals with international co-operative measures to monitor a CTB. These measures would include the establishment of a network of some 50 globally distributed and highly sensitive seismological stations. As is pointed out in the paper, most of these stations exist already today. It is suggested that evaluated data from the stations, including appropriate identification parameters, should regularly be sent to an international data centre. The centre should, as a matter of routine, define and locate reported events. It should also apply seismic identification criteria to observed events. Procedures should be established for the clarification, in consultation with the country concerned, of the nature of those events which are insufficiently described by routine procedures. We do not make any proposal as regards the location of such a data centre. The centre could be organized either as a separate institute or as part of a special disarmament organization already in 1973 proposed by

the Swedish and Dutch delegations.

In our view an ad hoc group of experts should be established immediately to consider the technical aspects of such co-operative international measures. The group should present its first report to the CCD as soon as possible and preferably before the end of this year's summer session. The Swedish delegation intends to return to this matter in connexion with our informal meeting with CTB experts this month.

CCD/PV.701 pp.10-11

Italy/di Bernardo

8.4.76

ENMOD

I should now like to move on to article III.

My delegation has given due consideration to the proposal that the words "the provisions of this Convention shall not hinder" should be replaced by the words "the provisions of this Convention do not apply to". We favour this proposal.

In our opinion, article III raises a more serious problem of interpretation, relating essentially to the objective difficulty of drawing a clear distinction, for the purposes of the prohibition sought by the convention, between peaceful uses and non-peaceful uses of environmental modification techniques.

In order to reduce, if not to eliminate, this area of doubt, one solution of the problem might be to impose on the States Parties to the convention an undertaking to consult one another and to co-operate among themselves on any specific questions that might arise in connexion with the interpretation of article III and hence, indirectly, article I as well. This could be achieved by including an amended version of the second sentence of the first paragraph of article V as a separate paragraph. It would read as follows:

"Consultation and co-operation shall also be undertaken through appropriate international procedures (within the framework of the United Nations) in order to solve any problems which may arise in connexion with the interpretation of article III".

In the present wording of article IV the undertaking to "take any necessary measures to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control" might appear to be too rigid and categorical, from the standpoint of domestic law. This provision could perhaps be made more flexible by establishing a simple obligation for each State to "prohibit and prevent any activity in violation of the provisions of the Convention".

A separate comment should be made on the problem of the complaints procedure which constitutes an essential guarantee that the convention may specifically attain the objectives set.

In the organization of machinery for the settlement of disputes, an essential point of reference, in conventions such as that which we are considering today, is that the stipulated conditions should be fulfilled as speedily as possible and with the greatest possible effectiveness.

Now, in the opinion of my delegation, the procedure provided for in article V, paragraph 2, of the draft convention does not fully meet these requirements of efficiency and speed, especially if one considers the possible serious and irreversible effects on other States of interference with the environment.

My delegation wonders, for example, whether article V, in its present formulation, would allow, as we think it appropriate, the Security Council to intervene promptly on the basis of a single circumstantiated allegation by a State party to the convention (that is, even before the illegality of the alleged activity has been completely established) in connexion with any environmental modification activities whose continuation may constitute a threat or a danger to that State.

In this connexion, my delegation, which shares the concern expressed by the delega-

tions of Sweden and the Federal Republic of Germany, favours the proposal made by those delegations in order to prevent any decisions taken by the Security Council concerning possible disputes from being vetoed by a permanent member of the Council.

This principle constitutes a useful instrument for strengthening the existing machinery for the settlement of disputes.

CCD/PV.701 p.16

Egypt/Khairat

8.4.76 ENMOD

The third and final group of comments I have to make refers to the problems and the functioning of the commitments to be undertaken. First, one question which arises is: what would be the rights and obligations of Parties towards third parties? This question is passed over in silence in the draft convention.

With regard to the procedure for mutual consultation between the Parties, referred to in article V, paragraph 1, we entirely support it, as we do paragraph 4 of the same article concerning mutual assistance between States Parties.

With regard to the complaints procedure referred to in article V, paragraphs 2 and 3, we understand both the need for the procedure and also the comments made on it -- namely, the fears expressed that a political solution might thereby be imposed in an area which is characterized by a high level of technicality; hence, the proposals made by some delegations to introduce a technical element into the question.

While acknowledging the competence of the Security Council to consider disputes of this kind which, affecting international peace and security, we do not, however, deny the value of the proposals made by the delegations of the Netherlands, the Federal Republic of Germany and Sweden for establishing an intermediate procedure and thereby introducing a technical element into the solution of disputes which might arise in this area.

CCD/PV.702 pp.6, 11-16

USA/Martin

13.4.76 CW

Over the last several years this Committee has assembled an impressive amount of information as a foundation for its work in achieving effective restraints on chemical weapons. Numerous, detailed presentations on CW have been made in working papers, during informal meetings with experts, and in plenary statements -- most recently on 25 March by the distinguished representative of Sweden, where she emphasized, among other things, the necessity of solving problems of verification (CCD/PV.697). These presentations have been indispensable for increasing our understanding of this technically complex arms control issue. Much of the information already presented to the Committee will no doubt prove invaluable for the task of negotiating and, at a later stage, for implementing CW treaty constraints.

In the light of this available useful information, some delegations have assumed that we now have all the elements we need to build an effective CW agreement -- and, accordingly, that all that is now required is a political decision to conclude an agreement. My Government does not share this assumption. In our judgement it fails to take into account crucial questions that are still unanswered.

It is particularly in the area of verification where effective solutions are not yet at hand. Understandably, the Committee has tended to concentrate on CW verification measures, such as statistical monitoring, that seem amenable to detailed analysis and that also seem non-intrusive and therefore negotiable. But such measures, even under the most favourable conditions, could serve only as a marginally useful supplement to more direct verification techniques. Much less attention has been devoted by the

Committee to other problems that appear less tractable, such as devising politically acceptable and technically effective on-site observation procedures. However, these less tractable problems are clearly most important to the effort of devising an adequate CW verification system.

Before we can reach agreement on a CW ban, we must achieve a shared understanding of CW verification issues and especially of those techniques that might make the most significant contribution to verification. More concretely, before we can make judgements concerning the adequacy and acceptability of these potentially useful verification procedures, we must have a clear idea of how such procedures would operate. Later in this statement I will make some specific suggestions for approaching the verification problem. As a means of focusing that discussion of verification issues, I would like now to outline my Government's views on several CW issues where an adequate basis for forming judgements already seems to exist, and where agreement may be possible in the relatively near future.

As I noted earlier, our inability to find effective solutions in the area of verification is the principal obstacle to a CW agreement. I suggested that the only way to overcome this obstacle is to seek a fuller understanding of verification issues, especially of those techniques that might be expected to contribute significantly to the reliability of a CW verification system. A useful way of approaching this problem might be to begin by considering verification measures that might be of value for a first-stage agreement to ban the production of all lethal CW agents and to destroy an agreed quantity of CW stocks.

A verification system for such an agreement would not, in the first place, have to meet all the requirements of a control system for a comprehensive ban. In particular, it would not be required to detect the clandestine possession of CW stocks. It would, however, have to provide an adequate assurance that CW agents were not being produced and that the agreed quantity of stocks was actually destroyed.

There are inherent difficulties in verifying a ban on CW production. The production of chemical warfare agents involves processes and equipment similar to the processes and equipment used in the chemical industry. Research conducted in the United States -- and presented to the Committee in 1970 (CCD/293) -- demonstrated that, given the external similarities between nerve agent plants and commercial chemical plants, it would not be feasible to determine by off-site observation whether or not a plant was producing nerve agents. The United States working paper also pointed out that, with the advent of highly complex, interrelated chemical production facilities, a wide variety of products -- including commercial chemical products and nerve agents -- could be produced at the same time within a single extensive complex. This possibility further compounds the difficulties of verification.

Because of these inherent difficulties of verifying a ban on CW production, we have not been able to find a practicable verification arrangement that would guarantee detection of the clandestine production of militarily significant quantities of CW agent. We do not, however, regard it as essential to provide an absolute guarantee. What is essential is to devise verification techniques that would set the difficulties of evasion, and the probabilities of detection, high enough to act as an effective deterrent to treaty violations. In other words, the verification system must reduce the inherent uncertainties of CW verification to a level that is acceptable to all treaty parties. What is acceptable, of course, will vary from State to State, depending on such factors as the perception of each State of the threat to its security posed by the CW capability of others, its own CW deterrent capabilities, and the opportunities for evasion available to potential adversaries.

A verification system suitable for an agreement that bans CW production and

reduces stockpiles would presumably involve a variety of verification techniques. One technique that has been widely supported in the Committee is the exchange of information, either in the form of national declarations or through periodic reporting to an international verification authority. Studies conducted by my Government indicate that the effectiveness of this technique in detecting determined evasion schemes would be extremely limited, especially in large countries with closed societies and self-sufficient, highly centralized economies. These studies also indicate, however, that while information exchange cannot provide adequate assurance of compliance, it can be of ancillary use as a confidence-building measure and as a basis of corroborating information obtained by other means.

We believe it would be useful for the Committee to seek a common understanding regarding the information that treaty parties should provide. In general, this information should be complete and detailed enough to play a useful role in verification, but should not compromise commercial secrets or place a reporting burden on parties disproportionate to the verification benefits received. For the most important categories of data, it might be useful, as in article II of the Protocol to the Threshold Test Ban Treaty, to have a "familiarization exchange" before the agreement enters into force.

A reporting system on chemical production might, for example, cover dual-purpose inorganic phosphorus-containing chemicals used in producing nerve agents; dual-purpose organic phosphorus-containing chemicals that can be used in producing nerve agents; and key dual-purpose chemicals, like phosgene and hydrogen cyanide, that have been used as CW agents. For each of the chemicals covered in the reporting system, parties might provide such information as location and ownership of all production facilities, aggregate quantities produced, aggregate quantities imported, aggregate quantities exported, and consumption by use category -- for example, 50 per cent for plastics, 10 per cent for fertilizer, and so on.

In addition to these production data, treaty parties might provide information periodically on the location and use of all facilities that formerly produced supertoxic chemicals or were designed for such production. Also, in view of concerns that may arise from extensive activities related to CW protection, we believe it would be useful, as a confidence-building device, for parties to exchange information on activities related to protection against CW agents, such as the level of expenditures and the purpose of research, development, and testing activities.

Under an agreement banning CW production, all production facilities would have to be dismantled, shut down, or converted to peaceful purposes. Where plants are closed down, various verification techniques might be used to determine that production is not resumed. In an earlier presentation to the Committee (CCD/332), we mentioned the use of unattended, tamper-proof seals and monitoring devices to provide such assurance. At present, an inexpensive tamper-proof seal that can be monitored remotely is under development. We hope to be able to present more details on this during the summer session.

In addition to these on-site but non-intrusive technical methods, treaty parties can be expected to rely on their own national means of verification to monitor continued inactivity at mothballed CW production plants. An agreement might therefore contain provisions aimed at facilitating such verification. An analogy would be the provisions in the Threshold Test Ban Treaty and its Protocol requiring that all nuclear weapon tests be conducted at designated test sites and that data on the geology of the test sites be exchanged in order to permit more accurate measurements by national technical means. Such means of facilitating CW verification have rarely, if ever, been considered by the Committee, but they seem to warrant further examination.

Although the United States has examined many techniques for verifying a CW production ban, none has been found to be more reliable for resolving serious questions

regarding compliance, and for restoring confidence in compliance, than on-site inspection of the facilities involved. The relative utility of on-site inspection has been recognized widely in the Committee; although, because of anticipated political objections as well as the desire to protect commercial secrets, support for on-site inspection has most often taken the form of support for the concept of "inspection by challenge". This concept would give a State asked about activities on its territory the authority to accept or reject a request for on-site inspection. A provision for inspection by challenge is, of course, contained in the Japanese draft convention.

While a number of delegations have endorsed the idea of inspection by challenge, I would agree with the representative of Canada, who at our 643rd meeting commented that we are "substantially lacking in the sort of detail that would permit such a system to be applied". I would suggest, therefore, that the Committee thoroughly consider the modalities of an on-site inspection system — both of inspection by challenge and mandatory inspection, although the two systems would have many features in common.

As a basis for assessing the effectiveness and acceptability of on-site procedures in relation to a production ban, several aspects of a possible verification system should be explored, including:

- procedures to be used in investigating the possible production of single-purpose agents compared to procedures for investigating the possible production of dual-purpose agents for weapons purposes;
- the utility and method of interviewing officials responsible for a production facility in advance of inspecting that facility;
- the utility of visual inspection of grounds surrounding a facility;
- the utility of, and procedures for, technical sampling of the environment surrounding a facility -- for example, the soil, ground water, vegetation, and surface of the outer walls of buildings;
- circumstances under which visual inspection and/or sampling inside a facility would be permitted;
- the nature and amount of equipment that observers would be permitted to use;
- procedures for conducting a chemical analysis of samples, particularly whether this should be done on-site or at remote locations;
- whether, after an on-site inspection and subsequent analysis of the data, return visits should be permitted to confirm the results or to obtain additional information.

These, of course, are only a few of the many aspects of an on-site inspection system that should be examined.

Aside from providing an adequate level of assurance that clandestine CW production is not taking place, a verification system suitable for an agreement to ban CW production and to destroy an agreed quantity of CW stocks would have to provide assurance that the quantity of CW stocks specified for destruction was actually destroyed. In August 1974, at our 654th meeting, I pointed out that the United States knew of no way to verify the destruction of declared stockpiles except by on-site observation of the actual process. The State destroying the agent could select a site far removed from other military or civilian installations, or perhaps located in a third country. My Government therefore believes that a procedure could be devised that would not reveal industrial or military secrets. Others in the Committee have indicated that they share this view.

An effective verification system for destruction of declared stockpiles must be capable of confirming that the type and quantity of the agent being destroyed have been correctly represented, and that no agent is being diverted during the destruction process. My delegation hopes to submit in the near future a working paper describing procedures, involving both monitoring instruments and inspection personnel, that we believe would be useful in achieving these objectives.

As part of the Committee's examination of verification of a CW production ban and verification of CW stockpile destruction, it might be useful to consider the feasibility and utility of technical exchange visits to selected chemical production or disposal facilities of various types in different countries.

Considerable attention has already been given in the Committee to the role that an international treaty authority could play, not only as an element in a CW verification system, but more generally as a means of ensuring the efficient operation of a CW treaty régime. My Government believes that such a body would be useful for the implementation of a CW agreement, and wishes now to present some thoughts regarding its organization and functions.

We think that the effective operation of the treaty régime should be the responsibility of the parties themselves, and not the responsibility of a new international organization established for the purpose. A consultative body might accordingly be set up, with membership open to all parties or composed of a smaller group selected on a rotational basis. This body could draw on the technical expertise of its member States, and might also decide on occasion to seek the assistance of experts from other States, or from professional associations or international organizations with special expertise. Such a body could be convened periodically and as need arises. We anticipate that there would be some need for a permanent staff for the consultative body and for some services to be performed throughout the year, and we believe that the Secretary-General of the United Nations and his staff might play a useful role in this area.

We would expect the consultative body to perform a wide variety of functions. It could provide an opportunity for treaty parties to consider new scientific and technical developments that could affect the operation of the agreement. It could receive and discuss periodic reports by parties of chemical production data and other information deemed useful to treaty implementation. The circulation of such reports to treaty parties could be a responsibility of the permanent staff. The consultative body could also assume important responsibilities with regard to treaty compliance, including making arrangements for any on-site inspections.

CCD/PV.702 p.26

Mongolia/Erdenechuluun

14.4.76 ENMOD

Some delegations have raised objections regarding article V of the draft, which describes measures for exercising control over compliance with the provisions of the convention.

As is known, in accordance with this article, States undertake to consult one another and to co-operate in solving problems relating to the application of the provisions of the convention, and if such consultations do not eliminate doubt, they may lodge a complaint with the Security Council.

The Government of the Mongolian People's Republic still considers the Security Council as the most appropriate body for this purpose since, under the United Nations Charter, it bears the primary responsibility for the maintenance of international peace and security and, in the exercise of its functions, it acts on behalf of members of the Organization. Article V is based on the provisions of the United Nations Charter, which is recognized by all Members of the United Nations as the most authoritative source of international law. Our delegation shares the view that the establishment of any kind of mediation body outside the framework of the United Nations is liable to cause unnecessary political and technical complications. The methods for dealing with a complaint, as proposed in the draft convention, already have sufficient precedents in recent international treaty practice.

On the basis of these considerations, the Mongolian delegation considers that article V in its present formulation satisfies the necessary political and practical requirements.

CCD/PV.703 pp.19-20

Romania/Ene

20.4.76 ENMOD

In conclusion, Mr. Chairman, I should like to refer to the verification system proposed by the draft convention.

We entirely share the doubts of other delegations with regard to the role entrusted to the Security Council. The arguments put forward speak for themselves.

Furthermore, if a real effort cannot be made even in the case of the verification system to adjust to the specific conditions involved, and it is still the intention to have recourse to the general instruments provided by the Charter, then one might wonder what the real sense of a convention such as that before us would be, in view of the fact that the principles and the declarations of intent which it contains are themselves covered by the Charter.

For our part, we favour a verification system based on the principle of the equal participation of all States parties.

In view of the existing gap between States with regard to the level of their knowledge about environmental modification techniques, an essential requirement of such a system must be the access of all States parties to information and data on the basis of systematic exchanges, capable of increasing the capacity of all parties to detect possible violations.

Experience proves that the viability of a treaty depends directly on the balance of obligations and rights of the parties, and on the manner in which all States parties are prepared to carry out the obligations assumed.

This same concept would, in our view, include the convening of periodic conferences to consider the implementation of the convention, as a forum for collective verification, by all States parties. This formula, used for other conventions, is particularly necessary in this sphere, in which environmental modification techniques are still in their infancy.

CCD/PV.704 pp.7-8

Sweden/Hamilton

22.4.76 CW

This working paper, of course, is not the first in the CCD dealing with aspects of the verification of a ban on chemical weapons. We already have a rich dossier on this subject, comprising wide parts of the many problems involved. Our contribution is aimed at a specific problem: the verification of destruction of stockpiles of chemical weapons.

Let me now give some background to the issue discussed in the paper.

In the draft treaty, presented by the delegation of Japan (CCD/420), it is suggested that observers from a proposed international verification agency should be invited to watch the destruction of stockpiles of chemical warfare agents. This idea was also proposed by the Swedish delegation (CCD/322, 16 March 1971).

The Canadian delegation has expressed the opinion that it is technically feasible to verify destruction of such stockpiles in a way which would not lead to disclosure of military or commercial secrets. In a Canadian statement on 23 May 1974 the following views were put forward:

"The Japanese draft treaty contains one essential element of verification and a possible general approach. The essential element is the international on-site verification of destruction of declared stocks. It is our view that such verification is technically feasible and would involve the most minimal political or commercial intrusion in that the destruction of stocks

could be carried out in places of a State's own choosing and no military or commercial secrets need be exposed". (CCD/PV.638)

The Soviet Union, on the other hand, has expressed concern that such disclosure of secret information might take place nevertheless. The Soviet Union has also pointed to the particular risk that the chemical nature of a chemical warfare agent, which so far had been kept secret, might be disclosed, leading to a risk of proliferation of new chemical weapons (CCD/PV.647 and 652). Although the Soviet delegation thus did not reject the idea of international on-site verification of destruction, it stated that it would be more practical to carry out the verification of this activity by national teams owing to the security risks mentioned.

My delegation believes that these fears on the part of the Soviet Union might diminish if an international on-site verification method for destruction of stockpiles could be devised, which would confirm that destruction of a toxic substance has taken place without disclosing the chemical nature of the destroyed agent.

In the Swedish working paper such a method is described. I am referring to the ordinary toxicity test, which is used in civilian medical and health research for tests of drug toxicities and health risks.

It should be underlined that it is not possible to use this or other methods for the remote verification of stock destruction or for finding hidden stockpiles. The intention of our suggestion is to point to one possible way of improving the common understanding of the difficult verification problem. We wanted to put forward our thoughts already now in order to give delegations time to consider this matter before the coming expert meeting in July.

We believe that an agreement on on-site verification of the destruction of stockpiles would also serve as a confidence-building measure of some importance. Accordingly, we note with great interest that similar ideas were put forward by Ambassador Martin in his last statement when discussing technical exchange visits. We will revert to a further discussion on this and the other constructive contributions during the expert meeting and during the remainder of the summer session.

CCD/PV.704 pp.10-11

UK/Allen

22.4.76 CTB

I should like to address briefly the matter of a comprehensive nuclear test ban which our experts are in the process of discussing during the course of the current week. Delegations from every group represented around this table have, during the current CCD session, frequently and correctly insisted that this subject is one of the most important with which the CCD deals. This is why we, for our part, welcomed the Swedish drive to focus attention on the subject. We are grateful for the many useful contributions made by a number of delegations' experts. I would only single out for mention in this connexion the most welcome contribution contained in CCD/484 from a country not represented in the CCD, namely Norway, a country of considerable interest and importance, seismologically, as well as of course in many other fields. For our part, we too have tried to make a contribution to the discussion of this significant subject as frankly and simply as possible, in the belief that obscurity is the enemy of progress; in response to many requests I am asking the Secretariat to circulate Mr. Fakley's statement of 20 April as a CCD working paper.

It seems to my delegation, Mr. Chairman, that our discussions have already revealed a substantial area of what can be discerned as common ground. There is first the question of determining the level of signal, associated with a seismic event, below which it is virtually impossible to determine whether an event has been caused by an earthquake or a nuclear explosion. It seems to us that there is fairly general agreement that this

"area of darkness", seismologically speaking, lies below seismic events of body wave magnitude of about 4 1/2. It is still a matter of debate how big a nuclear explosion could be concealed within this area of darkness. We believe, as we have argued, that this could in certain circumstances be as high as an explosion with a 50 kiloton yield. Others still appear to be unconvinced; but there is no doubt that there is an area of darkness, not susceptible to verification by national seismic means, and that this could conceal nuclear events of significance from a weapons testing point of view. We also believe we should all face the fact that there is little probability that new seismological techniques are likely to be developed in the near future which would enable States to detect and determine seismologically the nature of events within this area of darkness. My delegation therefore continues to believe that it is quite impossible to verify adequately a CTB by national means of a seismological character.

We believe on the other hand, Mr. Chairman, that there is indeed a good prospect of future improvement and refinements of techniques for the national identification of seismic events above a body wave magnitude of 4 1/2 through fostering international co-operation in this field. In this context we welcome the Swedish proposal for setting up a group of scientific governmental experts to study this subject. We agree with the distinguished representative of Sweden that there is a good hope of such a group making useful progress, provided it is set a clearly defined task. It will however take rather more than the time now available in the present CCD session to agree on a definition of this task; thus we welcome the proposal of the distinguished representative of Sweden that the Conference might consider the matter further at the beginning of the summer session of the CCD.

CCD/PV.704

pp.16-17

USSR/Roshchin

22.4.76

CW

The Soviet Union is in favour of the rapid accomplishment of the task of prohibiting the development, production and stockpiling of chemical weapons and of their destruction. To this end, the USSR, together with other socialist countries, submitted a draft convention for the Committee's consideration as far back as 1972. This draft was thoroughly explained and argued by its co-sponsors for a number of years. Since then, a great many discussions and technological studies of the problem of controlling such a ban have taken place. The socialist countries, the co-sponsors of this draft convention, proposed a detailed system of control entailing the use of many forms and methods of observation and verification of the fulfilment, by parties to the convention, of the obligations which they would assume concerning the prohibition of chemical means of warfare. This system, which is described in the draft convention and in the working paper of socialist countries of 28 June 1973 (CCD/403), provides for:

- the establishment of national control committees to supervise the cessation of production of chemical weapons and the means of delivering them, and the destruction of stockpiles of such weapons;
- the exchange of information on questions relating to the implementation of the obligations provided for by the convention;
- the use of statistical and other methods of analysing materials relating to the cessation of production of chemical weapons and the destruction of stocks of such weapons;
- the adoption by parties to the convention of specific legislative measures aimed at prohibiting chemical means of warfare, and particularly the prohibition of the patenting of such means of warfare;
- co-operation and consultation among States in the consideration of controversial and doubtful situations relating to the implementation of the convention;

- consideration by the United Nations Security Council of complaints regarding violations of the convention, etc.

During the discussion of questions of control over the prohibition of chemical weapons, delegations also suggested other types and forms of control which deserve attention (observation by instruments, water, soil and atmospheric analyses, etc.), which could supplement the forms and methods of verification mentioned above.

CCD/PV.704 pp.20-22

USA/Martin

22.4.76 CTB

However, the results of several comprehensive detection and identification studies, which were reported in the working paper, indicate that there are significant remaining limitations to seismic verification. This indication was confirmed by the presentations of experts from several delegations during the informal meetings. Because of these limitations, we do not presently foresee how a CTB verification system based solely on teleseismic means could provide adequate assurance that a party was not conducting a clandestine testing programme of military significance.

Differences of opinion were expressed by the experts this week on the seismic magnitude level at which nuclear explosions could be detected and identified with confidence. However, there was little disagreement that, below some level, the verification possibilities were exceedingly limited. Some delegations have nonetheless stated that any clandestine testing that might be possible under a CTB would not be of military significance. We cannot agree with this conclusion. It is noteworthy, in this connexion, that a significant number of United States nuclear tests during the last few years have had explosive yields of less than 20 kilotons. Tests at these lower yields could provide much fundamental information useful both for tactical and strategic weapons development. For these reasons, we believe that the effects of a testing programme carried out at yields that might not be identified by teleseismic means could indeed have considerable military value.

Some delegations have claimed that national technical means of verification other than seismic monitoring could facilitate verification of a CTB. We would agree that other methods of remote monitoring could, in principle, contribute to CTB verification. However, the value of such methods should not be overestimated, since they would have inherent practical limitations. For example, a determined evader might be able to disguise or avoid the characteristics of testing that such methods were intended to detect.

In view of the existing limitations of national technical means of verification, we believe that adequate verification of a CTB continues to require some on-site inspection. In many instances, on-site inspection would be the only means of providing conclusive evidence -- for example, through sampling for radioactivity -- that a detected seismic event was a nuclear explosion rather than an earthquake or a conventional explosion. Thus, a verification system that included on-site inspection would provide not only a substantial deterrent to clandestine testing by increasing the risks that any significant violation would be discovered, but also a means of assuring confidence in the treaty régime in those cases where seismic methods may have misidentified earthquakes as explosions or presented ambiguous evidence concerning the nature of a seismic event.

Unmanned seismic observatories (USOs), sometimes called "black boxes", have also been suggested as a means of verifying a CTB. USOs could lower the threshold magnitude for detection and identification, improve the capability to locate events, and thereby provide additional deterrence to a violation. However, they could not provide conclusive evidence that a seismic event was a nuclear explosion. Thus, USOs could make an important contribution to seismic verification of a CTB, but they are not the

equivalent of, and should not be regarded as a substitute for, on-site inspection. Nonetheless, we believe it is important that further effort be devoted to the development of tamper-proof, reliable, low maintenance USOs involving minimum intrusiveness, and also to evaluating the potential utility of such instruments to a CTB verification system.

The United States continues to regard international seismic co-operation as a promising component of a CTB verification system. We have in the past made a substantial amount of seismic information available internationally in an effort to promote greater understanding of how seismic data exchange could contribute to monitoring a CTB. In light of these efforts, we support the Swedish proposal that an ad hoc group of experts be established to examine the contribution that international seismic co-operation could make to the detection and identification of seismic events. We believe, however, that the project -- which would be a major undertaking for the Committee -- should be carefully conceived and that its terms of reference should be carefully formulated. In particular, we believe it should be made clear that the group's responsibilities are technical in nature. We further feel that it should not attempt to make judgments that would more appropriately be made by Governments -- such as an assessment of the adequacy of a given seismic monitoring system for verifying a CTB. We further believe that the study should be confined strictly to seismic means of monitoring. We look forward to discussions early in the summer aimed at reaching broad agreement on acceptable terms of reference for the study.

Recently it has become widely recognized that the problem of clandestine weapon testing is not the only CTB verification issue still unresolved. There is, in addition, the critical question of whether, under a CTB, an adequately verifiable accommodation for PNEs can be worked out. In CCD/456, my Government took the view that, if PNEs were to be accommodated under a CTB, a verification system would have to be devised that would provide adequate assurance that weapon-related benefits were not being acquired from nuclear explosions carried out ostensibly for peaceful purposes. To achieve that objective, a control system, at a minimum, would have to prevent the testing of a new weapon concept, the substitution of a stockpiled weapon for the "PNE" explosive to verify its performance, and the carrying out of nuclear weapons effects studies.

In CCD/481, the delegation of Sweden maintained that it was possible to deal with the problem of PNE accommodation by expert observation and on-site inspection. They discussed two different approaches to solving the problem.

"One possibility could be to monitor the composition of radioactive debris produced at the explosion site. Thereby one could check that nuclear devices of well-known design were not replaced by grossly different constructions. Another, and in our view quite effective, way would be to make sure, by expert inspection, that the explosions are not used for what is called diagnostic measurements of the explosion itself in its very early stages. In this way it could, in our view, be possible to reduce any weapon development advantages to a minimum."

My Government cannot agree that the two approaches suggested by Sweden would meet the requirement of achieving adequate assurance that weapons-related benefits were not being derived from peaceful explosions. Even if it were possible to demonstrate -- by radio-chemical analysis or any other means -- that the device used was of a "well-known design", this would provide no assurance that the explosion was not contributing useful information to a weapons programme. In addition, detailed diagnostic measurements are not essential for deriving important weapons-related information.

Further consideration is needed of the difficult and complex question of whether, under a CTB, an adequately verified accommodation for PNEs can be achieved. No satisfactory solution to this problem has yet been found.

Seismic monitoring will form an important element in any verification machinery for a comprehensive test ban. My Government regards the Swedish proposals for international co-operative measures to detect and identify seismic events as a useful way of exploring what form this machinery might take and how we might realistically work towards it. We look forward to taking part in the work of the proposed experts group. We are glad that, as we suggested, its terms of reference are now expected to include an examination of the costs which would be incurred if a global network were established and operated on a comprehensive basis. And as Mr. Allen also said, we shall be happy to have the experts include the United Kingdom seismic data centre at Blacknest and United Kingdom seismic stations at Eskdalemuir and elsewhere in any global system which they wish to consider.

My Government is wholly committed to a ban on all nuclear weapon tests in all environments under conditions which will increase, not diminish, security. Any grounds for believing that a ban was not being observed would have the opposite effect and render a treaty worthless. The resolution of political and technical problems must go together. On the one hand, are Governments willing to accept on-site inspections to verify the nature of suspicious events? On the other, what are the risks that under a CTB nuclear weapons testing could nevertheless be carried out with little fear of detection? We must face the fact that whatever improvements are made in seismological techniques, there will in practice remain a threshold below which detection and identification cannot be assured. We must also bear in mind the possibility that peaceful nuclear explosions could be used to circumvent a comprehensive test ban. We must ensure that verification measures really do reduce the element of risk and increase international confidence.

Another potentially fruitful way of controlling nuclear arms, and perhaps conventional weapons too, is by agreed restrictions in defined geographical areas. The Final Declaration of the Non-Proliferation Treaty Review Conference rightly said that nuclear-weapon-free zones, established on the initiative and with the agreement of the States in the zone, are an effective means of curtailing the spread of nuclear weapons. The nations of Latin America have made good progress, under the Treaty of Tlatelolco. It would be a notable advance if the Governments concerned took steps to make the Treaty effective throughout the area. The comprehensive expert study last year of the concept of nuclear-weapon-free zones was a valuable contribution. The report reflects various approaches to this substantial problem, realistically in present circumstances. The study will be useful to other groups of States who may wish to form such zones. We are much interested in the Nigerian initiative of 1974 and 1975. We shall examine with sympathy any further proposals for the establishment of similar zones in clearly defined land areas.

It is not only nuclear matters that this Conference has to deal with, important as these are. Other means of warfare have recently been brought to our attention, some of them so novel that many of us have difficulty in defining them.

One such case is environmental modification for hostile purposes, and here we welcome the fact that the United States and Soviet Union have produced parallel texts for a treaty to ban this method of warfare. At present few of the techniques in question are available for use in war, which means that we are to some extent legislating against unknown or imperfectly understood dangers. But my Government sees no inherent reason for hesitation on that account. We should certainly aim to agree on a tax for the next United Nations General Assembly.

On article V some delegations have suggested setting up an intermediary body to investigate complaints and if necessary to submit findings to the Security Council. The

United Kingdom could support this idea, provided that such an investigation committee was concerned with establishing facts rather than passing judgement, and that its report was circulated to States Parties, leaving the complainant to decide whether or not to submit it to the Security Council.

CCD/PV.709

p.14

Canada/Simard

6.7.76

CW

CCD members will recall that the Canadian delegation, in a statement on 16 July 1974 (CCD/PV.643), proposed for consideration a phased approach to the prohibition of chemical weapons based on excluded activities. This approach would allow a ban to apply not just to supertoxic agents but to all CW agents having military application, including the military application of some which have legitimate peaceful applications. The main elements of Canada's suggested approach are a ban on the production of all single-purpose (military) agents above an agreed toxicity level and on the production of identified single-purpose agents of lower toxicity, a ban on the filling of CW munitions with dual-purpose agents except for legitimate quantities of incapacitating agents for civil use, and a phased destruction of agreed quantities of CW stocks. A phased approach to the destruction of stockpiles would allow States which have chemical weapon stocks to retain some of their stocks for deterrent purposes in an interim period during which confidence in this treaty could grow and efforts could be made to overcome verification and physical problems involved in the destruction of all remaining CW stocks. The extent and timetable of stockpile destruction would obviously depend on the degree to which confidence in the treaty does grow. Whether or not it is ultimately considered necessary or proves possible to have on-site verification of a ban on production, we would consider on-site verification of the reduction of stockpiles and periodic reviews of the treaty implication and effectiveness to be important confidence-building measures.

Among the principal technical problems arising from the Canadian approach and likely to be encountered in any other approach to a chemical weapons convention are the need to establish a suitable general definition of chemical weapons, the need to agree on a toxicity threshold and a standard and method of toxicity measurement, the identification of single-purpose agents falling below an agreed toxicity threshold, the physical and environmental problems of stockpile destruction, procedures for the verification of stockpile reduction and the effectiveness of any systems such as remote sensing that might be employed to help verify a ban on production.

The Canadian delegation is gratified that the United States delegation, in a statement made by Ambassador Martin on 13 April, found our concept of a phased approach to be a realistic compromise and to be worthy of serious consideration, and also found our approach to the definition of chemical agents promising. We would hope, during the Experts Meeting, to obtain reactions from other experts to the Canadian working papers and proposals, and to contribute some views of our own on the working papers and proposals put forward by other delegations.

CCD/PV.709

pp.15-16

UK/Allen

6.7.76

CW

This morning I would like to introduce the United Kingdom working paper CCD/502 on the feasibility of extra-territorial surveillance of chemical weapon tests by air monitoring at the border.

A major difficulty standing in the way of international agreement on disarmament and control of chemical agents and weapons is the problem of verification. Two possible

ways of verifying that proscribed field tests of chemical weapons are being carried out would be:

(a) Surveillance by a satellite which monitored chosen areas of the earth's surface for the presence of chemicals of known military significance. This has already been discussed in United Kingdom working paper CCD/371;

(b) Surveillance, by ground stations sited outside national boundaries and equipped to detect the same chemicals, of air masses which had passed over areas where chemical weapons were thought to be produced or tested.

Once a reliable indication of an infringement of a convention had been obtained by one of these surveillance techniques, then a case for on-site inspection would be greatly strengthened. Techniques are already available that would enable evidence of the production or testing of chemical weapons to be obtained by examination of soil, water and vegetation taken either from the suspect site or from its immediate environs if the site itself was inaccessible.

The present paper presents a theoretical assessment of the probability that chemical weapon tests would be detected by atmospheric monitoring at a national boundary.

From the analysis carried out it is concluded that:

(a) detection of a field test by instantaneous monitoring of the air at a national boundary is not feasible at a distance of 10,000 km from the source and could probably not be achieved beyond a distance of 500 km;

(b) a sample accumulation system positioned on a national boundary might theoretically detect an organophosphorus compound in a puff released 10,000 km upwind. However, to establish the feasibility of this, experimental data are required on the degradation of puff concentration, during long-distance travel, by deposition, decomposition and wash-out;

(c) identification of organophosphorus agents by the system described will not be possible and in view of the risk of false alarms, resulting from the detection of commercial organophosphorus compounds, this system is considered not to warrant further investigation until identification can be achieved using 10 picogrammes of sample.

CCD/PV.709 pp.17-18

Japan/Ogiso

6.7.76

CW

As the scope of the agents to be prohibited, we understand the views of non-aligned countries that even less toxic chemical warfare agents should be prohibited as well as the highly toxic ones (CCD/400). We also recall the comment on the Japanese draft proposal made by Sweden that "the intended exemptions from the prohibition" -- exemptions from the suggested initial ban on super-toxic agents -- "seem to be too many" (CCD/PV.697, p.22). In the light of these views and as I stated on 13 April (CCD/PV.702), we do not intend to insist on our previous position of suggesting the initial ban of only super-toxic CWAs.

If, however, we expand the scope of the initially banned agents from super-toxic CWAs to all lethal CWAs, a number of dual-purpose agents naturally come within the scope of the initial ban. Since adequate techniques for verifying these dual-purpose agents are not available at present, the likelihood is that, for ensuring compliance with the convention, we depend to a great extent upon the genuineness of the information supplied by the Parties and consequently upon the mutual trust between the States Parties.

Our acceptance of the initial ban on all lethal CWAs is conditioned on general acknowledgement of such difficulties involved in verification, especially with respect to dual-purpose agents.

The phased approaches may be divided between the one concerning the agents which

I touched upon now and the one concerning the activities which I now propose to discuss.

Since the Geneva Protocol of 1925 bans the use of chemical weapons, the choice left for us now is on which activity out of development, production and stockpiling we should place our priority. In my opinion the ban on development is not practicable since science and technology have an essentially and inevitably dual character for both peaceful and military uses, and an objective distinction between them is therefore impossible. Therefore, restriction of the development will have to be achieved indirectly by a production ban.

Now, with regard to the two remaining activities, production and stockpiling, banning both of them would mean an excessive stress on ascertaining compliance with the convention, inasmuch as the scope of the initial ban is likely to be expanded to cover all lethal CWAs. Furthermore, when we try to choose our first priority between the two in terms of practical feasibility, we feel it desirable to ban production first, possibly coupled with a reduction of agreed amount of stockpiles, namely to check the increase in CWAs in the arsenals of States, and then to move on to the eventual destruction of all stockpiles, thus extending the scope of the prohibited activities. It may be pointed out as well that States possessing CWAs would feel themselves ready to agree to destroy all stockpiles only after ascertaining that the ban on production, possibly coupled with the partial ban on stockpiles, was being strictly enforced.

Next, I would like to touch upon verification. Recent working papers concerning the verification of CWAs include CCD/485 submitted by Sweden and CCD/497 and CCD/498 submitted by the United States. These papers suggest the high reliability of verification measures such as the use of technical instruments including monitoring devices and on-site inspection when they are employed in combination in ascertaining the cessation or conversion into peaceful uses of CWA production facilities made known by States possessing CWAs and in ascertaining the destruction of the declared CWA stockpiles.

Despite these measures, we find it hard to ignore the difficulty that the production facilities and stockpiles hidden by some States possessing CWAs may escape verification. So, if the scope of the initially banned CWAs is to be expanded, the main emphasis of the verification measures based on the present day level of science and technology will have to be upon the deterrence of the violation of treaty obligations by the combined use of such instruments as monitoring devices on the one hand and on-site inspection on the other hand for such limited purposes as ensuring that observation by instruments is not obstructed. The combination of these means are to be employed with regard to the cessation of production at declared facilities or the destruction of reported CWA stockpiles.

Basing ourselves on the recognition of this fact, we intend to continue our study on the modalities of on-site inspection for limited purposes and technical means to deter violation of treaty obligations. We shall also have soon to call upon States possessing CWAs to make a political decision about accepting direct verification measures including on-site inspection for limited purposes.

CCD/PV.712 p.10

Mongolia/Dugersuren

15.7.76 ENMOD

The delegation of the Mongolian People's Republic readily endorses the desire of the great majority of the representatives in the Committee to complete, during this session, the elaboration of a draft convention on the prohibition of military and any other hostile use of environmental modification techniques on the basis of the identical drafts submitted by the USSR and the United States.

We believe that the working group established by our Committee will assist it in an

effective manner in performing the tasks entrusted to it by the United Nations General Assembly. We hope that a spirit of reasonable compromise and constructive co-operation will prevail in harmonizing the existing different points of view on questions relating to the scope of the prohibition and the verification procedure.

My delegation has listened with interest to the clarifications given by the co-sponsors of the draft convention regarding articles I and V. We attach particular importance to the statement made by Ambassador V.I. Likhatchev, the distinguished representative of the Soviet Union, in regard to article V where he stated inter alia:

"Consultations and co-operation on the basis of appropriate international procedures, should problems arise in relation to the application of the provisions of the convention, include the possibility of determining the facts of the case within the framework of existing international organizations, such as the World Meteorological Organization, the United Nations Environment Programme or through a specially created committee of experts of the States party to the convention". (CCD/PV.705, pp.17-18)

CCD/PV.712 p.14 Sweden/Hamilton 15.7.76 CW

With respect to the comments by Ambassador Allen of 24 June (CCD/PV.706) regarding our two working papers CCD/461 and CCD/475, I would like to make the following remarks:

CCD/461 tries to sum up different concepts of definition and discussions which have been put forward in the CCD, particularly by the Japanese delegation in the draft treaty contained in CCD/420. It has been explicitly stated by the Swedish delegation that this summing up and our participation in the technical discussions does not imply that we have taken any new position, for example, with respect to any particular approach on scope, other than a comprehensive one, or on type of verification.

The United Kingdom statement based on our working paper CCD/485 to the effect that Sweden should have recognized that on-site verification is required for any CW treaty evoke a similar reaction. Sweden has not yet reached a final position in this respect. At this present stage different verification needs for different types of treaties are being discussed. We are at present merely participating in the technical discussions and are at this stage not ready to express any final positions.

Regarding the scope of agents of a CW treaty, useful definitions have been put forward. On the question of verification we have to admit that we are still far from a solution -- in spite of many ingenious suggestions. A new situation regarding verification may arise following the conclusion of the TTBT and the accompanying PNE Treaty between the United States and the Soviet Union. It seems to us that several of the concepts, methods and instrument-based observations provided for in the PNE Treaty may have an important influence on the discussions of verification in the CW context.

CCD/PV.714 p.14 Italy/di Bernardo 22.7.76 CTB

At the substantive level, the Italian delegation attaches the utmost importance and priority, from the standpoint of general and complete disarmament, to the total prohibition of nuclear tests.

We are naturally aware of the difficulties which the question of verification raises in this connexion. On the particular point, we consider that the studies directed towards analysing the technical possibilities of the various control systems, both national and international, should be pursued in further detail. We nevertheless believe that a climate

of greater trust, combined with the refinement of control techniques, can lead to a rapprochement between the divergent negotiating approaches and to the beginning of a concrete dialogue which will result in a comprehensive nuclear test ban treaty.

CCD/PV.714 pp.29-31

USSR/Likhatchev

22.7.76

CW

In the meetings which the Committee held with experts participating, an important place was given to the question of verifying compliance with the obligations which would be assumed by States parties to the convention on the prohibition of chemical weapons.

In this connexion, allow me to remind you of the formula on the subject of verification of the prohibition of chemical weapons which appears in General Assembly resolution 2662 (XXV) of 7 December 1970, namely that:

"verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system that would ensure the effective implementation of the prohibition".

The system of control envisaged by the socialist countries in their draft convention on the prohibition of chemical weapons, which includes national control in combination with international procedures (CCD/361 and CCD/403), is consistent with that recommendation and realistic.

The possibilities of national control -- as was demonstrated, in particular, by the Soviet experts during the meetings held at the current session -- are sufficiently broad and are based on scientific methods of analysis. These include physical, chemical, biological and certain other methods, each of which is elucidated in sufficient detail in the scientific and technical literature. The effectiveness of individual methods is so high that it is possible to record the presence in a sample of exceedingly small quantities of a substance. Magnitudes of the order of a few picogrammes -- that is, a few trillionths of a gramme -- were mentioned here. There has also been a qualitative increase in the analytical possibilities of control in recent years, when new generations of computers have presented extensive facilities for the storage and processing of varied information.

An essential element of control over the implementation of the convention will undoubtedly be the analysis of statistical data on the production and consumption of the raw materials and semi-products on the basis of which the production of agents for military purposes is organized. Here too there are very great possibilities. They are buttressed by substantial progress in mathematical methods of analysis based on existing computer technology.

Scientific and technical progress over the last four years -- that is to say, over the time that has elapsed since the introduction by the socialist countries of their draft convention -- has, in our view, confirmed for all to see the realistic nature of the proposal for national control, which could be put into practice by enlisting specially established national control committees. The capabilities of such committees are sufficiently broad, and their activity can be sufficiently effective, in particular, because the various instruments, reagents and computers needed for control purposes are already in serial production. Taking into account the uninterrupted progress of science and technology, it may be assumed that the level of equipment of the committees with up-to-date technology will rise steadily.

According to the working papers submitted at the present session and the statements which have been made, some countries are conducting research into the possibility of control by national means -- for example, with the aid of instrumental methods or extra-territorial long-range facilities. In particular Finland, which has submitted in working

paper CCD/501 the results of its experiments on chemical and physico-chemical analysis for the purpose of verifying the prohibition of the development, production and stockpiling of chemical agents, has advanced well founded arguments concerning the effectiveness of national means of control. Some members of the Committee on Disarmament have also come forward with practical considerations concerning national means of verification. The socialist countries' idea of national control is gaining more and more recognition here and, if anyone proposes to refine or weigh anything in this plan, we shall approach this with due attention and respect. However, as Ambassador Herder, the representative of the German Democratic Republic, quite rightly remarked at the meeting of the Committee on Disarmament held on 6 July 1976, exaggerated refinement of control could lead only to delay in concluding an agreement on the prohibition of chemical weapons.

CCD/PV.714 p.35

Yugoslavia/Lalovic

22.7.76

CW

The basic stumbling block to achieving agreement on the prohibition of chemical weapons is the question of verification. Under present conditions, this essentially constitutes a problem of mutual confidence or of lack of confidence among countries possessing such weapons and is reflected in demands for indispensable on-site inspection, or adequate national control in combination with international exchange of information according to a previously agreed procedure. There is a third way, to our mind the best, which would be a combination of national and international verification of the implementation of obligations deriving from agreement and which could, owing to modern methods for detection of chemical weapons, represent the most acceptable solution.

Considering the unsatisfactory situation for a number of countries in terms of medical and technical protection against chemical-weapons poisoning, my delegation submitted at the recent informal session with experts a working paper (CCD/503) relating to international co-operation in the field of medical protection. There is today an enormous discrepancy between the "efficiency" of nerve gases and the efficiency of available defensive countermeasures. However, it is probably not unrealistic to say that, if the research currently under way is continued, reasonably effective medical protection may become feasible in the not too distant future. For that reason, we have expressed the opinion that the present unsatisfactory situation could be relieved by international co-ordination of scientific research on prophylaxis and therapy in nerve-gases poisoning. Scientists working on these problems should be able to communicate their results to each other and, for this communication to be optimally effective, an agreed set of standardized procedures for measuring, calculating and quoting results would be extremely useful.

CCD/PV.715 pp.17-18

Mongolia/Dugersuren

27.7.76

ENMOD

I should now like to make some remarks on article V and the amendments proposed to it.

In the first place, our delegation would like to repeat here its position of principle that article V as it stands is not only in keeping with international treaty practice of recent times, but also contains a sufficiently flexible procedure for the consideration and settlement of disputes and complaints that may arise in the application of the convention. At the same time, our delegation is not opposed to the idea of defining in a more concrete manner the procedure for the consideration of complaints, in particular, by adding a provision stating how and by what organ the factual circumstances of the

case are to be elucidated.

We consider that the functions of the proposed organ (committee or commission of experts to be appointed by the States parties to the convention) should be strictly confined to elucidating the factual circumstances of the case by promoting consultations and co-operation between States parties. In our view, there is no need to assign to this body any functions of a political nature, such as interpretation of the provisions of the convention, or the formulation of recommendations and taking decisions on matters relating to the amendment of the convention, etc.

With regard to the composition of the committee or commission, it should be open to all the parties to the convention which wish to participate in it.

We take the view that the principle of equitable geographical distribution, which is applied in United Nations practice in the establishment of organs for negotiations and studies, mainly on new subjects, is not altogether appropriate in this case. What is involved in this case is the right of participation of each of the parties to an international agreement which have acceded to the agreement for the purpose of ensuring their security and welfare in the area in question. Accordingly, each of the parties to the convention should have the possibility to participate in the committee's work.

We further consider that the committee should not become a standing organ. The creation of standing organs is always accompanied by difficulties of various kinds.

In each individual case, on the basis of a request received from any State party to the convention, the Secretary-General of the United Nations, who, in accordance with the agreement already reached in the working group, will be designated as depositary of this convention, will have to set up a committee of experts after consulting with the parties to the convention. Our delegation understands that the functions of the Secretary-General will mainly be to notify the States parties to the convention of the receipt of a request for consultations, and of the date and place of the forthcoming meeting of the consultative committee, and also to provide organizational and technical assistance for holding the consultations within the framework of the Committee.

We agree that the consultations in the committee of experts with a view to elucidating the factual circumstances cannot be a substitute for the function of the Security Council to consider the case, and particularly not for its prerogative to take decisions on complaints.

Our delegation considers that it would hardly be desirable to assign to the committee of experts such functions as the preparation of conferences to examine the operation of the Convention, even if a provision on the holding of such conferences is included in the text of the convention itself.

With regard to the actual provision relating to such a conference, we have already expressed ourselves in favour of reintroducing the relevant article of the original draft proposed by the Soviet Union. At the same time, we should like to state here that if the majority considers it inadvisable, for well-justified reasons, to include such a provision in the convention, our delegation will have no particular difficulty in agreeing with such an approach. In view of the possible future proliferation of conferences to examine the operation of various international instruments, we consider that if a provision on this matter is included, it should be as flexible as possible on matters relating to the procedure, date and place of such a conference. In other words, such a provision might, if it is included, provide for example for the convening of conferences to examine the operation of the convention only after a specified majority -- perhaps a two-thirds majority of the parties to the convention -- declares itself in favour of holding it.

The most important point that our delegation wishes to stress in this connexion is that such conferences should not be concerned with the interpretation or revision of the basic provisions of the convention.

Already the 1963 partial test ban was considered a step and a fairly large step towards a CTB as stated in its preamble. The bilateral United States-USSR Threshold Test Ban Treaty (TTBT) could be seen as a second -- though a late and small -- step in a phased approach to a CTB, as it introduced both a threshold of 150 kt for underground nuclear weapon explosions and a time delay of almost two years for its implementation. My delegation has stated several times in the CCD ever since the summer of 1974 that the TTBT will be of little practical value in preventing the development of new nuclear weapons and weapon systems. In addition, it lacks any non-proliferation effect because of its bilateral character.

Therefore a next step, lowering the threshold by one order of magnitude, effective at a date to be agreed upon, should be negotiated as an element in the process of phasing out nuclear testing. In our view 10 kt would be a verifiable threshold in this range. Data available to us indicate that during the first five years of this decade 50 per cent of all nuclear tests produced explosion yields above 10 kt. Such a measure would bring about a significant restriction in nuclear weapons development, particularly with regard to strategic systems. A prescribed time delay for its entry into force could be used by the nuclear-weapon States to organize additional measures which they might feel necessary with regard to the maintenance of the nuclear balance and the security of the States concerned, and which could thus remove the need for further testing above the new threshold. Such measures might for instance include a reduction of or a ban on specified strategic weapon systems and possible qualitative developments. They could also include unilateral measures. The nuclear-weapon Powers should report to this Committee at appropriate points in time on their progress in achieving results on such additional nuclear arms control measures.

As a great number of countries have a security interest in the test ban, such a new threshold treaty should be multilateral and worked out within the context of the CCD. An appropriate internationalization of the verification procedure of the TTBT and its related PNE Treaty, supplemented by an international exchange of seismological data from presently existing or planned stations, would in our view provide adequate verification at a very low threshold level.

The remaining gap, from the low threshold down to zero, in which category 50 per cent of current testing belongs, could be closed by an additional step in such a phasing-out process. Agreement on this ultimate step should be worked out very soon while its implementation could be delayed for a limited period of time during which other measures related to nuclear weapons, including theatre, tactical and mini-nuclear systems could be brought about in order to reduce or remove possible related security problems and the need for further testing in the lowest yield range. I want to stress that the extension of the test ban to this lowest yield range would be a step in the phasing-out process as important as the other steps and that a continued development of tactical nuclear weapons would be as damaging to the non-proliferation régime as any other nuclear weapons development.

By these two steps a CTB would be within reach. A treaty package could be of unlimited or limited duration. It could provide for subsequent review conferences and it could make the scope and duration of the provisions dependent on agreements reached at such review conferences. It could also assume adherence by the super-Powers earlier than by other nuclear-weapon States. This suggestion includes a variety of possibilities for the design of an acceptable package. It is hard to see how it could be resisted with logical arguments.

It seems clear that a large part of the verification system will have to centre on the cessation of CW production, but the question of which verification methods to apply remains unsolved. Many of the studies undertaken have focused on the need to follow the production of the phosphorus compounds, and research has also been done in the area of monitoring other less toxic agents. A reporting system for chemical production was sketched by the United States at the 702nd meeting of the Committee, and the recent Soviet statement stresses the analysis of statistical data.

On the next level of verification, which has been termed "technical inspection", considerable effort has been expended in developing effective methods which are as non-intrusive as possible. Several techniques may not require access to the facilities. They include, for example, technical sampling methods which in certain cases might correspond to methods termed "near-site" verification by the Pugwash Workshop. There may be remote monitoring possibilities as well.

We have noted the contributions made to this very complicated and crucial problem by the United Kingdom and the United States. I would like in this context to mention the impressive research project undertaken by Finland on the identification of CW agents.

If some understanding could be reached about the verification methods which are most effective and least intrusive, it might facilitate consideration of the core issue: the search for some verification organ which could reconcile the need for international supervision with the need to protect national industrial interests.

The other aspect of CW verification, the assurance of destruction of stockpiles, is also an obstinate problem. The United States has proposed several alternatives regarding the destruction of CW stockpiles reflecting the view that such reductions are essential in the first stage. On first reading, the destruction of a specified amount by each State would seem one way of avoiding excessive verification demands. The United States statement mentioned the possible unequal burden this would place on countries with small stockpiles, but might it not be possible to borrow an idea from the third alternative and establish different amounts for different countries, depending on the estimated size of existing stockpiles?

With regard to the verification of stockpile destruction, we have read with interest the recent Swedish contribution in document CCD/485. We hope it will help to solve the problem of assuring the destruction of CW agents without revealing undue information. We have also taken note of the United States paper, CCD/497, as well as the paper of the German Democratic Republic, CCD/506.

The United States proposal for technical exchanges should certainly receive careful attention. If it can assist in evaluating various verification methods, it could advance our work. We also note the pertinent Yugoslav statement regarding the importance of medical counter-measures against chemical warfare.

The Committee has devoted due attention to another important task, namely to the task of banning chemical weapons. A complete ban must remain the goal here. Again, the rate of scientific discovery makes it more and more urgent to take this measure as soon as possible. That is why our delegation continues to regard the proposal of the socialist countries from the year 1972 (CCD/361) as a starting point. As in other fields, it may be necessary to approach this goal by partial steps. If that is so, some step should be taken soon, the sooner the better. The discussions with the participation of

experts have shown that there exists an increased interest in this urgent problem, and moreover that -- as far as some aspects of it are concerned -- there is a certain narrowing of the differences in points of view of the participants. A significant number of interesting contributions clarifying numerous aspects of this complicated subject matter were made. In spite of that, the problem of verification and control remains one of the problems to be solved. We think that it is possible to organize an effective system of control making good and ingenious use of the scientific disciplines concerned and of national means of control. It seems to be useful to pay attention in this connexion to the working paper submitted by Finland (CCD/501) and to the ideas advanced by Ambassador Likhatchev on 22 July 1976 (CCD/PV.714). We heard with interest the declaration of Lord Goronwy-Roberts on 1 July 1976 and are looking forward to the draft of the comprehensive CW convention mentioned there.

CCD/PV.717 p.20 Netherlands/van der Klaauw 3.8.76 PNE

An interesting aspect of the agreement is the provision that the verification system will also be used on the territory of other countries. This is, of course, a logical provision, but it means that when a non-nuclear-weapon State asks PNE-services from one of the two nuclear-weapon States involved, it has to invite the other party, too, at least if the aggregate yield of the PNE is above 150 kton.

The agreement also shows, and this is in our view highly important, that when countries lay down precise procedures for verifying the implementation of an agreement, they are now willing to allow the exercise of inspection activities on their territory. The observing State is even allowed to lower equipment into the borehole of the nuclear explosive device. It is encouraging to note how far States are prepared to go if the political will is present.

We saw the same happen in the nuclear safeguards field, in particular during the negotiations on the NPT-safeguards. Many countries were for various reasons reluctant to accept international inspection activities within their territories. Nevertheless, with the political will which was present during these negotiations, and by painstakingly laying down the rights and duties of inspectors and the detailed procedures to follow, it was possible to design an effective safeguards system which could be accepted by the countries involved. In this connexion I would like to recall that the final declaration of the NPT-Review Conference asked the parties to the NPT, without making a distinction between nuclear- and non-nuclear-weapon States, to accept safeguards on all peaceful nuclear activities. Perhaps it now becomes possible to implement this request fully. Anyway, the PNE-agreement has very interesting verification provisions which could be of importance for future arms control and disarmament agreements. I therefore hope that the agreement will soon come into force.

CCD/PV.719 pp.8-11 USA/Martin 10.8.76 PNE

...Of critical importance in this regard is the yield limit of 150 kilotons that the PNE Treaty places on individual explosions. As members of the Committee are aware, this yield limit is identical to the limit placed by the TTBT on nuclear explosions carried out at weapon test sites. It reflects the fact that a basis was not developed for accommodating individual peaceful explosions above the TTBT threshold without their providing weapon-related benefits otherwise precluded by the TTBT. This is largely because it has not been possible to distinguish between nuclear explosive technology as applied for weapon-related purposes and as applied for peaceful purposes.

Consideration of the question of carrying out individual peaceful nuclear explosions with yields greater than 150 kilotons is provided for at an unspecified future time. It should be emphasized, however, that the PNE Treaty prohibits such explosions, and amendment of the Treaty would be required to provide for them.

The Treaty also defines a category of explosions called "group" explosions: a group consists of several individual explosions in sufficiently close proximity in distance and time that teleseismic means cannot reliably distinguish between, and measure the yields of, the individual explosions in the group. The Treaty provides that the aggregate yield of a group shall not exceed 1,500 kilotons.

For any group explosion with a planned aggregate yield above 150 kilotons, the primary aim of the Treaty's verification measures is to ensure that no individual explosion in that group has a yield above 150 kilotons. In the case of such group explosions, the Treaty provides that observers from the verifying side will have the right to be present on-site before, during and after the explosions. At the explosion site they will be permitted to identify each individual component explosion and to measure its yield by means of instrumentation that measures the velocity of the shock wave in the close vicinity of the explosion. The observers will also verify that the circumstances of the explosion are consistent with the stated peaceful purposes.

Thus, the PNE Treaty constitutes an important milestone: for the first time nuclear-weapon States have agreed to permit the presence of foreign personnel on their own territories for the implementation of an arms control agreement.

In order to measure the yield, the personnel of the verifying side can choose to bring to the site of the explosion their own equipment, the sensing elements of which would be placed close to the explosion in accordance with the provisions of the Protocol to the PNE Treaty. Alternatively, observers can choose to use equipment provided by the party carrying out the explosion. In the event that the verifying side elects to use its own equipment, there is a procedure for shipment of two identical sets of equipment to a port of entry of the other party, which would then choose the set to be used in the verification process. Each of these sets would, in turn, contain duplicate components to be used for recording data and associated calibration equipment. After the explosion another selection procedure, this one by an agreed process of chance, will allow the verifying side to retain in its sole possession one of the two identical sets of data-recording components and associated calibration equipment, while the other party may retain the remaining set for a specified time. In this fashion, the rights of both sides are equitably preserved — the right of the verifying side to a valid set of measurements, and the right of the other side to assurance that the equipment is not being misused to acquire unwarranted information.

When the planned yield of a group explosion is between 500 and 1,500 kilotons, the observers will, in addition, have the right to deploy a network of seismometers in the vicinity of the emplacement points of the explosives, to assist in verifying that no undeclared explosions are detonated along with the announced group explosion. The procedures described a moment ago for selecting and using yield verification equipment also apply to the equipment used for a local seismic network.

For explosions having yields between 100 and 150 kilotons, observers will be present if the need for their presence is mutually agreed to between the parties on the basis of information made available by the party carrying out the explosion or by the verifying side. Under these circumstances, the principal functions of the observers will be to confirm geological and other information in order to assist in the teleseismic determination of the yield of the explosion.

Observers will also confirm the geological and other information provided by the party carrying out the explosion at aggregate yields above 150 kilotons.

From this brief description of observers' rights it can be seen that the scope of

observer functions increases with the aggregate yield of an explosion. This is because at higher yields there would be greater opportunity for evading detection of a violation of the 150-kiloton limit on the yield of individual explosions. For example, the possibility of detonating an unannounced explosion of a yield above 150 kilotons under the cover of a group explosion with an aggregate yield in the range of 500 to 1,500 kilotons is greater than if the group explosion had a lower aggregate yield. Therefore, as I have noted, provision is made for a local network of seismometers in the higher yield range to provide additional assurance of compliance in such cases.

Below 150 kilotons (unless the presence of observers is permitted as described above), the PNE Treaty provides for verification on the basis of national technical means alone, supplemented by detailed information supplied to the verifying side by the party carrying out the explosion. National technical means, assisted by such data, will provide adequate assurance that individual explosions having yields greater than 150 kilotons are not being conducted. Again, there is a scaling of yields and verification measures, this time with respect to the amount of information provided. For example, for each explosion with a planned aggregate yield greater than 50 kilotons, information would be provided about the purpose, location, date, planned yield, depth of burial, geology, number of explosives and their relative locations, the specific geological features of the project which could influence the determination of the yield, and the specific technological features which could influence the determination of yield and confirmation of purpose. This information would be provided at least 30 days in advance of the beginning of emplacement of the explosives.

For explosions at lower yields, and for explosions at yields greater than 75 kilotons, respectively less or more extensive information provisions are established. For explosions with planned aggregate yields exceeding 100 kilotons, the information must be provided no later than 180 days in advance of the beginning of emplacement of the explosives. For all explosions, additional information, including the actual time and aggregate yield, must be provided to the verifying side not later than 90 days after the explosion.

The PNE Treaty also provides that any underground nuclear explosion for peaceful purposes must be carried out in compliance with other international agreements to which either or both sides are party. In particular, the Treaty reaffirms, in an operative article, the obligation of the parties to comply with the provisions of the Limited Test Ban Treaty of 1963, which prohibit any underground nuclear explosion that causes radioactive debris to be present outside the boundaries of the State in which the explosion was conducted.

In addition to the provisions for supplying information, the PNE Treaty provides for the establishment of a Joint Consultative Commission to facilitate additional exchanges of information, the establishment of procedures for the efficient implementation of the verification procedures, and consultations regarding any questions of compliance which might arise.

The interrelationship of the TTBT and the PNE Treaty is further recognized by their identical five-year durations, and by the provision that neither party may withdraw from the PNE Treaty while the TTBT remains in force. Conversely, either party may withdraw from the PNE Treaty upon termination of the TTBT.

By the terms of the Treaty, both parties also pledge to continue to fulfil their obligations under article V of the NPT, and to assist the International Atomic Energy Agency with regard to the international agreements and procedures referred to in article V.

The PNE Treaty also provides for the development of mutually beneficial co-operation in various areas related to PNEs. The sides will keep IAEA appropriately informed of the results of such co-operative efforts.

The Protocol to the Treaty spells out the procedures to be followed during the

observation process, including such specifics as the number of observers, the geographical extent of their access, the provision of certain information, such as maps of the area of the explosion to assist in the planning of their activities, and essential matters of a legal nature that mainly provide for immunities for the observers, their quarters, equipment and records.

The Protocol also provides for certain additional constraints in order to assure proper functioning of verification procedures and to limit the opportunity for gaining weapon-related information. An example of the former is the set of formulas on allowed maximum and minimum distances between individual explosions constituting a group explosion. An example of the latter is the minimum depth requirement on any explosive emplacement point. Explosives buried at a lesser depth could provide militarily significant information, such as blast and electromagnetic effects produced by the explosion.

The Agreed Statement that accompanies the Treaty specifies that a "peaceful application" of an underground nuclear explosion would not include the development testing of any nuclear explosive. Such testing must be carried out at the nuclear weapon test sites specified by the terms of the TTBT, and, therefore, is treated as the testing of a nuclear weapon. Furthermore, it would not constitute a "peaceful application" if test facilities, instrumentation or procedures related only to testing nuclear weapons or their effects were associated with any explosion carried out under the terms of the PNE Treaty.

CCD/PV.719

pp.15-16

USSR/Likhatchev

10.8.76

PNE

At the same time, we should like to make some comments on the verification provisions contained in the above-mentioned documents. First of all, we should like to recall what is the purpose of such verification. This is the prohibition to carry out:

1. any individual explosion having a yield exceeding 150 kilotons or any group explosion having an aggregate yield exceeding 150 kilotons, if it is impossible to identify each individual explosion and to determine its yield;
2. any group explosion having an aggregate yield exceeding 1.5 megatons;
3. any explosion which does not carry out a peaceful application (that is, explosions outside testing areas).

Verification of compliance with these provisions will be effected as follows:

In the first place, the parties will use the national technical means of verification at their disposal in a manner consistent with generally recognized principles of international law.

Secondly, the parties will provide one another with information and access to sites of explosions under the specific conditions which are clearly set forth in the Protocol to the Treaty.

The gist of this verification system is to ensure that the explosions carried out correspond to the declared peaceful purposes. Moreover, since explosions having a yield exceeding 150 kilotons are prohibited at this stage, it is necessary to ensure that this provision is observed. As is known, the same problem arises in connexion with the Soviet-United States Treaty on the Limitation of Underground Nuclear Weapon Tests. But in that Treaty it is solved only on the basis of national technical means, whereas in the case of the Treaty on Peaceful Nuclear Explosions the possibility of the presence of foreign representatives at the explosion site is admitted. What is the reason for this difference? The fact is that nuclear weapon tests are carried out at specifically determined sites, or proving grounds, on which the parties are required to exchange detailed information under the Treaty of 3 July 1974. On the other hand, the sites of peaceful explosions are naturally selected in each individual case according to the purpose of the

project for which such an explosion is being carried out. Additional problems therefore arise in connexion with the need to determine whether or not a peaceful explosion exceeds the prescribed yield threshold. That is precisely why access of foreign representatives to the explosion site is allowed in the case of an explosion having a planned aggregate yield exceeding 100 kilotons but not exceeding 150 kilotons and in the case of any group explosion having a planned aggregate yield exceeding 150 kilotons. It should also be noted that, the greater the yield of the explosion, the greater the volume of data to be exchanged between the parties. These provisions are motivated by the fact that, the closer the yield of the explosion to the agreed threshold, the greater the amount of data on teleseismic measurements required.

The control system designed to verify the peaceful nature of a nuclear explosion does not, of course, imply any change in the Soviet Union's position with regard to the verification of the complete and general prohibition of nuclear weapon tests. Underground weapon tests raise problems of their detection and identification. These problems may be solved on the basis of national technical means, supplemented by co-operation in the international exchange of seismic data. As stated above, the 1974 Soviet-United States Treaty on the Limitation of Underground Tests is based precisely on these national technical means of verification. In the case of peaceful nuclear explosions, however, it is necessary to ensure that underground nuclear explosions are used for peaceful purposes and for peaceful purposes only. The Treaty of 28 May 1976 is designed to ensure such control.

CCD/PV.720

pp.8, 10-12

UK/Allen

12.8.76

CW

There is another area of experience from which we can draw assistance for the negotiation of a chemical weapons convention. This is the work of the international inspectors under the Nuclear Safeguards Agreements which many States, including the United Kingdom, have concluded with the International Atomic Energy Agency. Experience in this area has shown that technically trained personnel, under the control of an international agency, can add materially to the confidence of the international community in a highly sensitive area of arms control, without creating unacceptable risks to industrial or military secrets. This is useful and encouraging, though we recognize that the pattern of IAEA may not necessarily be ideal in this context, since the civilian chemical industry is so much bigger and more diverse than the civilian nuclear industry.

May I, Mr. Chairman, sketch the recent historical background of our draft?

On 28 March 1972 the delegations of Bulgaria, Czechoslovakia, Hungary, Mongolia, Poland, Romania and the USSR tabled in paper CCD/361 a draft chemical weapons convention. Their text was modelled closely on the Biological Weapons Convention which the CCD had brought to a successful conclusion in 1971, the previous year. This draft contains many of the elements which are vital to a chemical weapons convention but it seemed to us to be deficient in two respects: it lacked an adequate definition of the chemical agents to be banned, and it also lacked sufficient provision for verification. These two problems, that of definition and that of verification, have inspired many working papers and plenary statements since 1972, in attempts to expand the basic framework of CCD/361. The authors of the 1972 draft themselves carried the process forward in 1973 with paper CCD/403. This suggested that chemical weapons verification should be based on national forms of control, supplemented by international exchanges of information and statistical analysis. We agree that such measures could play an important part in building confidence before the coming into force of any chemical weapons agreement; but we consider that they would not in themselves be adequate to

ensure that States parties fulfilled all their obligations under a comprehensive chemical weapons convention.

Article I contains a general undertaking not to develop, produce, acquire or use chemical weapons or munitions, and systems designed to deliver them. We have used general purpose criteria for the chemical substances and the types of munitions to be banned, similar to those included in the East European draft of 1972. We believe that it is particularly important to include "munitions" under this article. We also envisage that the CCD will negotiate a protocol specifying in greater detail the agents to be covered in article I. The protocol could be expanded to cover any potential chemical weapons agents discovered after the convention came into force. This protocol would have to take into account the detailed working papers on toxicity prepared by Canada (CCD/473), Japan (CCD/466), the Federal Republic of Germany (CCD/458) and Sweden (CCD/461). One of the reasons why we have included "munitions" in article I.b. is to help to overcome the problem of binary weapons. If the convention bans the specialized munitions which are designed to bring binary precursors together to form a lethal chemical substance, then the precursors themselves will present less of a problem. In November last year, in the First Committee of the United Nations General Assembly, the distinguished representative of China criticized the Biological Weapons Convention for failing to mention the 1925 Geneva Protocol. He said that the Convention would "only facilitate the use of these (biological) weapons by the super powers in the future". We have included a reference to "use" in article I, so that the comprehensive nature of this convention may be absolutely clear.

Article II contains the principal confidence-building element in the draft. Under it, signatories of the convention would declare whether or not they were in possession of chemical weapons and they would enter upon an exchange of information designed to foster an atmosphere of mutual trust, and to facilitate subsequent work once the major provisions had come into effect. We accept that it may be difficult for some States to supply the information required under article II; and we realise that it may not be possible to verify the absolute accuracy of all the information supplied under this article. But we believe that the supply of data is an important gesture of good faith which will contribute to the confidence of all signatories in the effectiveness of the convention. If sufficient confidence were not generated by the figures produced, the main provisions of the convention would not of course come into effect. Each signatory would also establish or nominate a national verification agency. These actions would be undertaken without waiting for the treaty to come into force. This is an innovation, Mr. Chairman. It is based on the thought that confidence, mutual confidence, is the first prerequisite of a chemical weapons convention, and that confidence must therefore be established from the very beginning.

Article III provides for the closing down or conversion to peaceful purposes of any factories producing the agents specified in article I. In practice, this would amount to a moratorium on all chemical weapons production for States which had signed the convention. This provision also would come into force in the first phase of the convention's existence, and would be a powerful confidence-building factor.

Article IV makes it clear that obligations assumed on signature would lapse if the convention did not come into force, within some specified period of time.

Article V covers constitutional processes and is identical to the corresponding article in the BW Convention. So is article VI which deals with non-proliferation, whether by transfer of chemical weapons or by the transfer of manufacturing know-how. These articles would come into effect in the second stage. Article VII marks the beginning of the third stage. As we see it, some parties to the treaty might feel that their security would be endangered if they destroyed all their chemical weapons stocks

unilaterally at the outset.

So article VII provides for a phased programme of destruction of chemical agents or their conversion to peaceful uses, and for the destruction of munitions stocks or their conversion to conventional weapons. Both these would be carried out under a phased and agreed programme. Both would require international verification. It is our intention that a phased programme of destruction should be negotiated; and that there should be international inspection by the consultative committee, carried out in accordance with terms and conditions to be set out in a protocol.

Article VIII provides for the establishment of a consultative committee by the States parties. Its chief task would be to arrange for the necessary verification procedures and to co-ordinate the exchange of information. Inspection would involve both routine visits to the plants listed, in accordance with article II, and the right after challenge to inspect the source of any phenomenon which might indicate an attempted breach of the convention.

Article IX specifies the type of verification procedures which parties would accept. It incorporates some of the techniques described in the United States working paper CCD/498. This article would no doubt need to be elaborated in a detailed protocol. We have included in article XII a reference to exchanges of information on prophylaxis and protection against chemical weapons agents, in response to the Yugoslav paper CCD/503. The remaining Articles are, we believe, uncontroversial, covering such subjects as information, exchange for peaceful purposes, the relationship of the convention to the 1925 Geneva Protocol, and the amendment procedure. We have deliberately left blank the depositary arrangements. This subject is under discussion in the Ad Hoc Committee on the Review of the Role of the United Nations in the Field of Disarmament, and the arrangements adopted for the environmental modification convention are also relevant. Indeed, any differences that there may be between these sections of our text and that of the environmental modification convention are due mainly to the fact that this text was fixed some little time ago. I shall not take up the Committee's time by reviewing the remaining administrative arrangements of the treaty now.

CCD/PV.721 pp.11-12

Hungary/Domokos

17.8.76

CW

Consideration of the much-discussed problem of verification revealed some new ideas and technical possibilities in the field of national means of verification. At this stage I wish to offer a few comments of a general nature on this question.

It appears to be a generally accepted principle that verification of any arms limitation or disarmament agreement should be related to the weapon or activity to be prohibited. One should take into account, inter alia, the following criteria: (1) the significance of the weapon in question in the security of States possessing it, and also its impact on bilateral or regional military balance and on international security; (2) its physical properties connected with verification, for instance the size and number of units, their emplacement, the necessity of field experiment in development and in the control of the reliability of existing stocks; (3) the industrial and research facilities needed for development and production; (4) technical capabilities of available means of verification.

The use of chemical means of warfare is banned by the 1925 Geneva Protocol, and therefore specific legal and political conditions exist for a CW-convention.

There are other specific features, for instance, in the field of industrial and research background and in physical properties of CWs connected with verification. As our expert stated at the informal meetings, in the case of CW verification the whole chemical industry, consisting of hundreds or thousands of production and development

facilities, should have been taken into account.

The recent informal meetings have confirmed our conviction that a system of continuous on-site inspection, in itself, based on declared facilities and stocks cannot give a factual assurance against eventual evasion of a ban. On the other hand, this system of verification would imply unjustified disadvantages, for instance, as far as the problems of protection of industrial secrets are concerned.

We already have effective methods of national verification at our disposal. The rapid progress in science and technology improves further the universal applicability of these methods. Consequently, we continue to believe that national means of verification combined with international procedures offer a suitable solution for the verification of a CW convention. We think, therefore, that more attention should be paid in our Committee to that issue. Moreover, it would be desirable to discuss possible guidelines for the establishment of national authorities and for the necessary international procedures.

At the same time we felt highly relevant the statement made by the representative of the German Democratic Republic, Ambassador Herder. He said: "...from time to time we cannot but have the impression that some of these problems, such as the question of control, are over-estimated by some members of our Committee. We are against demands aiming at an exaggerated 'perfectioning of control'" (CCD/PV.709).

The most recent event in our discussions on the CW ban was the submission of a new draft convention on 12 August by the representative of the United Kingdom of Great Britain and Northern Ireland, Ambassador Allen. The efforts and responsibility undertaken for the completion of earlier proposals and the new ideas deserve our appreciation and attention. The new draft will be forwarded to my Government for careful consideration, and our views will be expressed in due course. As far as the proposed system of verification is concerned I should like only to refer to what I have just stated above.

CCD/PV.724 p.20

Italy/di Bernardo

26.8.76

CTB

The Italian delegation associates itself with the opinion expressed by other delegations and hopes that the greatest possible number of States members of CCD will be able to play an active role in the discussions at the next session of the Ad Hoc Group, so that the exchange of information on seismic data which is essential to a study of the installation of a global seismographic network may take place on the basis of the broadest possible geographical representation.

The task which has been entrusted to the Ad Hoc Group of Scientific Experts is particularly important, since no acceptable solution has yet been found to the problems of monitoring a possible agreement on the prohibition of underground nuclear tests.

The credibility of a control system based on teleseismic data has long been the subject of much discussion.

The great number of working papers which have successively appeared show that such a system would leave margins of doubt; moreover the extent of those margins is in dispute.

We consider that, if the study undertaken by the experts was sufficiently thorough and free from political prejudice, it could dispose of a great many problems which to this day have a negative influence on the outcome of the negotiations.

In particular our delegation is of the opinion that, once the technical limitations of seismographic readings were determined, it would be easier to consider the possibility of applying additional control measures of a more intrusive nature, on the lines of those provided for in the Soviet-American Treaty on Nuclear Explosions for Peaceful Purposes.

We shall therefore follow with the greatest interest the work which the Group will

be doing in the future, in close collaboration with CCD, to solve the problems which have so far prevented the Committee from reaching a general and complete agreement on the prohibition of underground nuclear tests.

CCD/PV.726 pp.9-10

USSR/Likhatchev

2.9.76

ENMOD

This article contains important provisions for the settlement of possible situations of conflict connected with questions of the implementation of the convention by States parties to it. According to these provisions, consultation and co-operation through international procedures include the possibility, should problems arise in relation to compliance with the convention, of fact-finding by existing international organizations such as, for example, the World Meteorological Organization and the United Nations Environment Programme. In our view, the nature of the activities of these two organizations are closest to the matters covered by the convention.

The article also provides for the establishment of a consultative committee of experts, open to all States parties to the convention, whose task is to assist States parties in the solution of any problems which may arise in connexion with the objectives or implementation of the convention. This solution is in accordance with the principle of the equality of all States parties to the convention.

The committee of experts has, if necessary, to make findings of fact and provide expert views relevant to any problem raised by any State party in connexion with the application of the provisions of the convention. In practice, all this will ensure a better understanding of what has happened and will lead, in particular cases, to the elimination of possible misunderstandings or disagreements. The adoption of decisions on controversial matters concerning the implementation of the convention must be the prerogative of the Security Council. A State which has any doubts on the basis of the findings of fact of the committee of experts will itself decide whether to lodge a complaint with the Security Council, requesting it to carry out an investigation and adopt a political decision, or to drop its claims altogether if it becomes clear that they arose through a misunderstanding. The article clearly lays down the procedure for lodging a complaint with the Security Council.

Thus, the State concerned has, in case of need, a sufficiently wide range of courses of action, including bilateral consultation and co-operation, application to existing international bodies within the framework of the United Nations for consultation, the convening of the consultative committee of experts and, lastly, application to the Security Council. The State itself decides which of these possibilities it wishes to make use of.

A corresponding annex to the convention, relating to article V, on the functions and rules of procedure of the committee of experts, has also been drawn up. It clearly outlines the committee's sphere of competence with regard to fact-finding, without the adoption of any decisions on the substance of the problem which has arisen. This annex also provides for certain machinery to facilitate the committee's work, including the possibility of requesting from States, and from international organizations, information and assistance which would be desirable for the accomplishment of the committee's work.

CCD/PV.727 pp.15-16

Italy/di Bernardo

3.9.76

ENMOD

As regards article III, we believe it essential for the safeguard of all States parties that a provision should be included which would enforce the responsibility of States for damages or injuries deriving from the use of environmental modification techniques for

peaceful purposes. We think that such a provision would, inter alia, greatly contribute to preventing activities prohibited under the draft convention from actually being disguised as peaceful ones.

Finally, permit me, Mr. Chairman, to offer some remarks on article V. This article provides, inter alia, that States parties undertake to consult one another and to co-operate in solving any problem which may arise in relation to the objectives of, or in application of the provisions of, the convention. To this end, article V stipulates that a consultative committee of experts will be set up, which shall undertake to make appropriate findings of fact and provide expert views relevant to the solution of problems arising, inter alia, from any alleged breach of the convention.

It is our belief that such a committee, according to the rules of procedure provided for in the annex, could hardly perform its functions constructively and effectively.

In our opinion the consultative committee is basically weak, since it is not entrusted with a capacity having legal effects. This very fact, in itself unfortunate, is likely, at least in perspective, to hamper rather than to stimulate co-operation among Member States, since the deliberations of the committee are not likely to have a practical impact on the decisions of the Security Council.

CCD/PV.727

p.23

USSR/Likhatchev

3.9.76

CW

During the session there was a thorough discussion of the question of the prohibition of chemical weapons. We should again like to express our satisfaction that, as the discussion showed, differences of opinion among members of the Committee on aspects of the scope of the prohibition have narrowed significantly. The majority of representatives, while admitting the possibility of a step-by-step approach, have advocated a complete ban on chemical weapons as the ultimate objective. At the same time, there has been a narrowing of differences on the definition of the chemical agents to be subject to prohibition, and agreement on the need to adopt the "general purpose" criterion supplemented by the toxicity criterion.

The fact that additional clarity has been brought to the question of the validity of national verification, which would be supplemented by certain international procedures, can also be regarded as a substantial result. The fact that the point of view of the socialist countries regarding the adequacy of such forms of verification is meeting with increasing understanding among members of the Committee has not insignificant practical implications and will help to advance our work.

The United Kingdom of Great Britain and Northern Ireland introduced its draft convention on the problem of the prohibition of chemical weapons at this session. We shall study this document with all due attention.

CCD/PV.728

pp.18-19, 20

USSR/Likhatchev

15.2.77

CTB,CW

It has been asserted by Western States that the system proposed by the Soviet Union for verification of compliance with the treaty is inadequate. The Soviet Union has believed and continues to believe that any nuclear explosion can be detected and identified by national technical means supplemented by an international exchange of seismic data. This point of view is based on scientific data and on the opinions of highly qualified experts. It is supported by scientists of virtually every country in the world. However, since some States suggest that provision be made for the possibility of on-site verification of the actual circumstances if doubts arise regarding a particular seismic event, the Soviet Union declared at the thirty-first session that it was prepared to

participate in the search for a mutually acceptable understanding on such a basis as would ensure a voluntary framework for taking decisions relating to on-site ascertaining of relevant circumstances and would, at the same time, impart confidence to all parties to the treaty that the obligations are complied with. We have included the appropriate amendments in the draft treaty on the complete and general prohibition of nuclear weapon tests.

Thus, there are now no grounds to shun the negotiations on the pretext of verification difficulties. The Soviet side has displayed flexibility which, in our opinion, opens up the possibility for a generally acceptable agreement on the problem of verification and for the early conclusion of a treaty, given good will on the part of the other nuclear-weapon States. Such an agreement can and must be reached in the course of appropriate negotiations.

We may say that the response to this step of the Soviet Union on the question of verification is very encouraging. During the thirty-first session of the General Assembly, a great number of States welcomed it as a sign of flexibility and of a desire to look for a generally acceptable agreement.

We believe that, in conditions in which the beginning of negotiations with the participation of all nuclear-weapon States is being delayed, the Committee on Disarmament can play a useful role in the preparation of a treaty on the complete and general prohibition of nuclear weapon tests. The Soviet delegation intends to dwell in greater detail on this matter in the course of the further work of the Committee at this session.

For the foregoing reasons, and as it wishes to achieve progress towards a speedy conclusion of a treaty on the complete and general prohibition of nuclear weapons tests, the Soviet Union will take part in the work of the Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events.

The United Nations General Assembly, having noted certain progress, has again recommended the Committee on Disarmament to continue negotiations on yet another question, the question of the prohibition of chemical weapons. At the last session of the Committee, an increased interest in the discussion of this matter was noted. Now it is important not to lose the momentum but to accelerate it.

Some delegations frequently refer to the so-called difficulties of verifying compliance with a convention. In our view, these difficulties are greatly exaggerated. Compliance with an agreement on the prohibition of the development, production and stockpiling of chemical weapons and on the destruction of stockpiles of these weapons could be verified by national technical means supplemented by certain international procedures. It is precisely this system of verification that is provided for in the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, which is now successfully in force. This same concept is gaining ever wider acceptance also in the Committee, where the representatives of a number of countries have advanced convincing arguments in favour of national verification. At the same time the Soviet Union, taking into account the positions of other States, declared at the thirty-first session of the United Nations General Assembly that it was ready to consider the possibility of using additional supervision procedures and, in particular, to discuss methods of verifying the destruction of stockpiles of chemical weapons which are to be excluded from the arsenals of States.

CCD/PV.728 p.23

USA/Sloss

15.2.77

CW

We are also encouraged by the fact that the Committee's deliberations last year reflected increased awareness of the central role of verification in a CW agreement. My

Government hopes that the Committee will give particular attention to this topic during the spring session; we would once again like to suggest that technical exchange visits might facilitate work in this area. Furthermore, as Ambassador Martin stated at the General Assembly last fall, we maintain our reservations regarding reliance on national technical means. However, we noted with interest the statement on verification of destruction of chemical weapon stocks, contained in the disarmament memorandum submitted to the Assembly by the Soviet Union.

CCD/PV.729

pp.10, 12

Sweden/Thorsson

17.2.77

CTB

The issue of verification has for a long time blocked progress towards a CTB. Since I last spoke on the subject in the CCD an interesting development has taken place. I am thinking of the memorandum put forward by the Soviet Union in the General Assembly last autumn and now in the CCD. It appears from the text of that memorandum that the Soviet Union would be willing to discuss methods of ascertaining on site the relevant circumstances of a seismic event in addition to relying on national technical means and an international exchange of seismic data to verify compliance with a CTB treaty.

This new attitude could hopefully pave the way for a solution to the political aspects of the verification issue. As to the technical side of the problem my delegation continues to believe that the state of the art in seismology is such that an adequate verification can be obtained. The CCD Group of Experts is planning to have its second meeting next week. Hopefully, the work of the Group will substantially facilitate the establishment of a generally accepted global monitoring system for a CTB.

As regards verification, we suggest, in the light of the promising developments that have taken place, that the treaty contain provisions for an effective international exchange of seismological data and for a procedure involving on-site inspections on a voluntary basis. For clarification of events pertaining to the subject matter of the treaty, the parties could also include provisions for the services of a consultative committee set up for this purpose.

As to the scope of the treaty, we think that the simplest and most practical solution would be to make it cover nuclear weapon tests or explosions of other nuclear devices in all environments. The treaty would thus be an independent and comprehensive treaty, and not complementary to the PTBT.

CCD/PV.730

pp.8-9, 11-12

USSR/Likhatchev

22.2.77

CTB

Until recently, the question of the prohibition of underground nuclear tests has been artificially complicated by exaggerating the problem of supervision. Like many other countries, the Soviet Union believes that the present level of technology for identifying seismic events eliminates this problem since, for supervising compliance with a treaty on the prohibition of nuclear weapon tests, national technical means are adequate under present conditions. These means could be supplemented by co-operation between States in the exchange of seismic data. This approach is now widely acknowledged.

Nevertheless, in order to achieve more rapid progress with this question, the Soviet Union declared at the thirty-first session of the United Nations General Assembly -- and here at our meeting on 15 February we confirmed this -- that it is ready to participate in a search for a universally acceptable understanding on a compromise basis that would ensure a voluntary framework for taking decisions relating to on-site ascertaining of relevant circumstances and would, at the same time, impart confidence to all parties to

the treaty that the obligations are being complied with. Accordingly, the following additions have been incorporated in the original text of the draft treaty on the complete and general prohibition of nuclear weapon tests, proposed by the Soviet Union in 1975:

"In case a State Party to this Treaty has doubts regarding the nature of a seismic event that occurred in the territory of another State Party to this Treaty, it has the right to raise the question of carrying out an on-site inspection in order to ascertain the true nature of that event. The State Party to the Treaty that raised this question must cite appropriate grounds in support of the necessity of carrying out the inspection. The State Party to the Treaty which is the object of doubts regarding its compliance with the Treaty, recognizing the importance of this question, may take a favourable position regarding the carrying out of an inspection in its territory, provided it finds the grounds convincing, or it may take another decision. Such an inspection shall be carried out according to rules established by the inviting State Party."

This important provision relating to the question of supervision has been included as a new paragraph 3 of article II of the draft treaty and, in our opinion, it opens up a possibility for a universally acceptable understanding on the question of supervision.

We would like to stress that the draft treaty on the complete and general prohibition of nuclear weapon tests, proposed by the Soviet Union, objectively provides for the most effective means of solving this problem.

I would like to speak briefly on the basic provisions of this document which consists of 8 articles.

The draft provides for the prohibition of nuclear weapon tests in all environments — in the atmosphere, in outer space, under water and underground (article I). Such an obligation must be assumed by all States and certainly by all nuclear Powers since, as I have already stated, it is only with the participation of all nuclear-weapon States that the objective of the complete and general prohibition of nuclear weapon tests can be achieved. This is precisely why the draft provides that the treaty is to enter into force after it has been ratified by a specific number of States, including all nuclear-weapon States (article VI).

Questions relating to supervision of compliance with the treaty are given a prominent place in the draft treaty (article II). According to the Soviet draft, control over compliance by all States Parties to the treaty with the obligations they have assumed will be based on the use of national technical means supplemented with international co-operation in the exchange of seismic data between the States Parties to the treaty. As I have already pointed out, this article is supplemented by the clause providing for a possibility for the on-site ascertaining of factual circumstances on a voluntary basis if there is doubt as to the compliance by States Parties with their obligations.

The draft provides for consultations between the Parties to the treaty and for the lodging of complaints with the Security Council, which will undertake an investigation when it receives a complaint from a State that has ascertained that any party to the treaty has acted in violation of the obligations assumed by it. As one can see, the provisions regarding supervision of compliance have been elaborated very thoroughly in the draft treaty.

The draft treaty provides for wide possibilities for the peaceful use of the energy from nuclear explosions for the benefit of all States (article III). It stands to reason that the conduct of peaceful nuclear explosions must be in conformity with the objective of the non-proliferation of nuclear weapons, and the draft contains a provision to this effect.

Peaceful nuclear explosions will be conducted for non-nuclear-weapon States in

accordance with the provisions of article V of the Treaty on the Non-Proliferation of Nuclear Weapons. As to nuclear-weapon States, the procedure for conducting PNEs will be established under a special agreement which should be concluded as speedily as possible. In establishing such a procedure, it will be necessary to take into account the recommendations of IAEA, which is the most competent and qualified international organ in this regard.

In concluding, I would like to emphasize once again that the proposal with regard to the on-site verification of seismic events on a voluntary basis, put forward by the Soviet Union at the thirty-first session of the United Nations General Assembly, opens up the possibility for achieving a universally acceptable understanding on the problem of supervision, and for the early conclusion of a treaty, given good will on the part of other States.

CCD/PV.731

pp.9-11

Iran/Fartash

22.2.77 CTB,CW

During last year's sessions test-ban negotiations were hardly advanced. The only positive step was the fact that, upon the proposal of the Swedish delegation, informal meetings with experts were held in April 1976. My delegation clearly noted its disappointment with the results of those meetings and with the continuing impasse over the questions of detection and identification capabilities. However, we welcomed the Swedish initiative which resulted in the creation of the Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and to Identify Seismic Events.

At the General Assembly appeals and demands for a comprehensive test ban abounded and a widely supported resolution urging our Committee to devote its energies to this question called for an interim suspension of all testing. Once again, as at the General Assembly's thirtieth session, the resolution was not supported by the nuclear Powers.

Because of this rather sombre background we are particularly encouraged by the recent developments which seem to signal the determination of both super-Powers to seek a solution to the test-ban problem. We welcome the new proposal advanced by the Soviet Union providing for on-site inspection within a voluntary framework for the verification of a comprehensive test ban which is incorporated in the draft treaty submitted to the CCD on 22 February by the Soviet Union. This sign of movement in the stalemated verification issue holds out the promise of a significant narrowing of differences. We listened with great interest to the additional explanations given by the distinguished Soviet representative. After careful study we will comment more fully on this subject.

On the American side we welcome the assurances conveyed by the distinguished United States representative that a comprehensive test ban is a top priority objective of President Carter, and recent statements on this subject lead us to believe that useful negotiations could now be undertaken. These various developments give a decided impetus to our work and we look forward to the results of the on-going studies in the United States in the hope that they will facilitate rapid agreement.

In our view it is especially important that these new initiatives help to overcome the main problems posed to a test-ban accord in recent years. It would be unfortunate if a potential breakthrough were thwarted by the stipulation that all nuclear-weapon States must take part in a complete ban from the outset. The participation of all nuclear Powers in a test cessation is an aspiration we all share, but it should not be made a precondition to possible agreement.

Another problem has involved the question of peaceful nuclear explosions. My dele-

gation welcomed the treaty between the United States and the Soviet Union on PNEs and hoped that it would lead to a solution for PNEs in a test-ban agreement. We recognize that is of greater importance and more difficult to assure the peaceful nature of nuclear explosions under complete test-ban conditions than under a threshold agreement. However, the nuclear Powers are committed to implementing the PNE arrangement promised by the NPT. We trust, therefore, that a way will be found to accommodate some PNEs in a comprehensive test ban.

We listened as always with keen interest to the statement of the distinguished representative of Sweden on 17 February. The preliminary text containing a draft CTB treaty which Sweden intends to present will certainly be a welcome and significant document for our further deliberations.

On the question of a chemical-weapons prohibition, too, the light has become brighter since last year. The very useful informal meetings with experts held last summer at the suggestion of the Federal Republic of Germany have added to our already considerable store of knowledge in this area and it was evident at the end of our 1976 session that a measure of agreement existed regarding the state of our negotiation. We have made progress in the quest for criteria to define the chemical warfare agents to be banned and we have sorted out the verification problems which, although unresolved, are clearly identifiable.

The confidence in the CCD to handle this issue was evident at the General Assembly. The attitude of most delegations was marked by a willingness to leave this problem to our Committee and the ensuing resolution incorporated in its new preambular paragraphs the advances made last year. In this connexion we welcomed the modification of the Soviet approach to CW verification contained in the memorandum of the Soviet Union to the United Nations General Assembly which has now become a document of our Committee. Since verification of stockpile destruction has been an area of basic disaccord, we are hopeful that the move will help to overcome this difficulty. Taken together with the assurance that consultations between the United States and the Soviet Union to seek a common approach will continue, and the tabling last year of a new draft Convention by the United Kingdom, we find the prospects for this year's discussions encouraging.

CCD/PV.731 pp.20-21

Bulgaria/Nikolov

22.2.77

CTB

It might be said that hitherto two main obstacles have barred the way to agreement on the complete and general prohibition of nuclear weapon tests. The first obstacle arose out of differences of opinion about monitoring compliance with a possible treaty banning all nuclear weapon tests. The second obstacle was the refusal of certain nuclear Powers to take part in the efforts to solve the problems of nuclear disarmament.

It seems to us that the differences of opinion about monitoring are being overcome. Through the achievements of science and technology it has become possible to tele-monitor compliance with a treaty on the complete and general prohibition of nuclear weapon tests and to distinguish a nuclear weapon test from an earth tremor without having to resort to on-site inspection. The specialists consider that the use of national technical means of control, supplemented by international exchanges of seismic data, affords a reliable means of verifying compliance with the undertakings assumed by the States parties to such a treaty. As long ago as 1973, in a letter dated 27 April addressed to Senator Edward Kennedy, Mr. William Foster, the former Director of the Arms Control and Disarmament Agency, wrote: "Although adequate verification of a CTB once required on-site inspection, nuclear test detection and identification technology is now such that we can enter safely into a test ban agreement using existing

national means of verification without on-site inspection. The SALT I agreement contains important precedents in this regard..." Since then, the technical means of identifying seismic phenomena have been still further refined. Nevertheless, in its memorandum on questions of ending the arms race and disarmament, submitted to the United Nations General Assembly at its last session, the USSR showed itself prepared to consider a supplementary procedure based on a voluntary framework for taking decisions relating to on-site verification. The Soviet draft treaty on the complete and general prohibition of nuclear weapon tests, which was before us at the previous session of the CCD, has been supplemented by a new provision to that effect.

In its present form, the Soviet draft treaty on the complete and general prohibition of nuclear weapon tests provides for a system of control which comprises:

- (a) The use of national technical means of control;
- (b) Co-operation between States in an exchange of seismic data;
- (c) Possibilities of on-site inspection, on the terms indicated in the draft treaty, in case of doubt regarding the nature of a seismic event;
- (d) Consultations between States when necessary, including the supply of information in response to inquiries;
- (e) As a last resort, complaint to the Security Council if a State party to the treaty ascertains that a violation has been committed.

All this goes to show that control presents no technical difficulties and is no longer a genuine problem. Consequently the conclusion of a treaty on the complete and general prohibition of nuclear weapon tests now depends solely on a political decision by the nuclear Powers.

CCD/PV.732

pp.12-13

Hungary/Domokos

1.3.77

CTB

As to the Soviet draft treaty, I wish to mention only the verification procedure. The Hungarian delegation had the opportunity to express its views on this subject, according to which, given the level of development of seismological detection instruments, national technical methods are sufficient for verification and complemented by an international interchange of seismological data, the verification procedure will be absolutely fool-proof. We are convinced that the work of the Group of Experts will fully confirm this belief.

We hope that, thanks to their contribution, we will soon be able to find a final solution to the problem of the verification of a complete prohibition of testing. It is precisely this hope that led us to send our seismological expert to attend the session of the Group which has just ended, and in whose work he participated actively.

We expect the Soviet Union's readiness to find a mutually acceptable solution to site inspection will remove the last of the obstacles — sometimes artificially created — to the final settlement of this problem. The favourable reception given the Soviet proposal, as reflected in the statements made so far, arouses the hope that, during the detailed negotiations, we will easily arrive at an agreement even on this subject, which is almost always extremely delicate.

As far as the consultative committee proposed by the delegation of Sweden is concerned, our preliminary opinion is that this question should be considered in connexion with the organization of an international exchange of seismological data. It seems to us — making a comparison with the control system for the ENMOD Convention that the functions of a consultative committee could be fulfilled by the exchange of seismological data, because in both cases it is a question of the exchange of scientific information.

Another important feature of the Soviet draft is that it provides a solution to the

problem of explosions for peaceful purposes, and thereby facilitates a broader application of article V of the Non-Proliferation Treaty. My country is not at present directly interested in nuclear explosions for peaceful purposes, but the political aspect of this question and its correlation with the complete cessation of nuclear weapon tests is of enormous interest to us. In our opinion, the Treaty would be considerably more attractive if the prohibition of military tests was harmonized with an agreement on the régime for explosions for peaceful purposes. If there is agreement in principle, it would be easy to solve the related technical problems.

CCD/PV.733 p.10

Sweden/Thorsson

3.3.77

PNE

I stated here two weeks ago that we feel, on the Swedish side, that the possible interest of carrying out PNEs must yield to the urgency of achieving a CTB. But it might generally be considered necessary to allow for the possibility of future PNEs. Provisions to this effect are to be found in article II and are planned to be elaborated in detail in protocol II. PNEs should, in our view, however, be allowed only when they are of overriding national or international importance. The party requesting a PNE, be it a nuclear or a non-nuclear-weapon State, would be obliged to submit the project to strict international supervision and control according to procedures agreed upon by the parties to the treaty, including those pertaining to a special international agreement on PNEs as required by article V of the NPT.

Article III deals with the important problem of verification and control of the compliance with the treaty. We suggest here, *inter alia*, the same provision as in the Swedish draft treaty of 1971 (CCD/348), i.e. the so-called verification by challenge. We believe it necessary to include — perhaps at a somewhat later stage — provisions regarding international co-operation on world-wide seismic data exchange. We presume that provisions on such arrangements for the verification of compliance with the treaty can be inserted in a protocol III. Furthermore, we propose provisions for setting up a consultative committee, the functions and rules of procedures of which would be negotiated in the CCD and included in protocol IV of the treaty. As a logical last step in the process of verification, article III, paragraph 5 gives parties to the treaty the possibility to bring the matter to the attention of the Security Council of the United Nations.

CCD/PV.733 p.12-15

Japan/Ogiso

3.3.77

CTB,PNE

Needless to say, the first step towards the achievement of nuclear disarmament is the realization of a comprehensive nuclear test ban (CTB). Thirteen years have passed since the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water entered into force in 1963. A CTB has not yet been realized owing to the problem of verification, the attitude to be adopted towards nuclear explosions for peaceful purposes, and the conflict in view between the two Superpowers concerning the necessity of all the nuclear-weapon States to join a CTB treaty from its initial period.

In my statement on 27 July 1976, referring to the lack of progress in such matters as nuclear disarmament, and in particular a comprehensive test ban, I urged the Superpowers "to make further efforts coming to the necessary political decisions". In this connexion, I welcome, as the dawn of such political decisions, the moratorium proposal by President Carter of the United States on 8 February 1977, and the reference to on-site ascertaining in the disarmament memorandum submitted by the Soviet Union on 15 February 1977. Here again I wish to emphasize the need for political decisions by the

two Superpowers which will lead to the solution of outstanding questions such as verification and PNEs, and the eventual accession to a CTB treaty by all the nuclear-weapon States.

I strongly urge that, in response to President Carter's proposal, the United States and the Soviet Union should come to an agreement on a moratorium on nuclear testing for two to four years, which will increase their trust in each other for a CTB, and that the CCD should promptly initiate concrete work on drafting a CTB treaty with an effective verification system. If the moratorium cannot be achieved immediately, I appeal to the two Superpowers to improve the present TTBT agreement in such a way that the threshold of 150 kilotons is substantially reduced and the Threshold Treaty transformed into a multilateral one; both these ideas were suggested by me in my statements on 9 March and 27 July 1976. I expect to see facilitated, through these interim measures, a mood in which the other nuclear-weapon States will join a CTB treaty.

Desiring the United States and the Soviet Union to commence their concrete work on drafting a CTB treaty at the CCD, I would like to mention briefly my country's position on (1) verification, which is a basic question of the treaty, and (2) its attitude towards nuclear explosions for peaceful purposes.

With respect to verification, so-called national means based on a seismological method and other methods are not sufficient for us to secure compliance with the treaty. I believe international machinery has been generally thought indispensable to ensure the effectiveness of a CTB. The machinery should consist of (1) speedy collection and analysis of verified data and (2) on-site inspection or ascertaining. I would like to propose the establishment of a verification committee consisting of experts from both nuclear-weapon States and non-nuclear-weapon States to make the said machinery effective. The main function of this committee should be to receive and analyse seismological data. It should be empowered to ask for additional data, if necessary. As the result of its analysis, the committee may find it advisable that on-site inspection should be carried out. Though I believe it desirable that the experts' judgement should be respected, it should be left to the forthcoming negotiations to determine whether this committee should have a final say on the need for on-site inspection.

With respect to on-site inspection, the Soviet Union showed its readiness to consider this question in a favourable way in the working document presented to the last session of the United Nations and the CCD on 15 February (CCD/522): "The Soviet Union is convinced that no particular difficulties should arise in elaborating such a compromise basis for an agreement as would ensure a voluntary framework for taking decisions relating to on-site ascertaining of relevant circumstances and, at the same time, impart confidence to all parties to the treaty that the obligations are complied with. The Soviet Union stands ready to participate in a search for a universally acceptable understanding on this basis". This new line of policy is an encouraging sign that the Soviet Union has shown a flexible attitude towards the solution of this problem, although the procedure concerning on-site inspection contained in the draft treaty tabled by the Soviet Union at this session requires further careful study, in the light of our position.

In this connexion, I should like to touch upon the question of the appropriate system for collecting seismological data, which is closely related to the question of verification. Needless to say, seismological data must be collected without delay if underground nuclear tests are to be detected. To this problem our working document (CCD/524) intends to provide an answer. My country's experts, based on last year's proposal, used the existing main array stations and calculated, through computer simulations over a few months, what explosion yield it would technically be possible to detect in a relatively short period. According to the document, we obtained the very encouraging result that the existing main array stations can locate seismic events of a magnitude of over 4.75, from 20 to 30 kt in yield, in most of the northern hemisphere, and that these stations,

with the introduction of several new array stations, could detect and locate in a very short period small seismic events over magnitude 4.25 (several kt) in most of the northern hemisphere.

In short, we could not only locate but even verify such considerably small explosion yields through the existing seismological network if we could further secure the data exchange system among an appropriate number of array stations, and hence an unresolved question is, I believe, for us to carry out work with a view to the practical use of these existing facilities.

Therefore, as I did last year, I would like to propose to the CCD that, taking our working document (CCD/524) into consideration, it should suggest connecting the main array stations in the world with the existing data exchange system, of which the most effective is the WMO network, with adequate capacity and with all-time availability; and I would also suggest conducting an experimental exercise for location work which would be the major part of the future CTB verification procedure. The technical study necessary for this process has already been made by the CTB Ad Hoc Group. Hence, I would like to propose that the CCD should request the Ad Hoc Group to do practical work, if possible, during the CCD's summer session and to carry out its experimental exercises stage by stage. Naturally, we would need full-scale experimental exercises at the final stage, but I am sure that we can materialize the purpose of our work by conducting partial experimental exercises, depending on the progress of the study by the Ad Hoc Group. I am convinced that such exercises will provide us with the material indispensable to the solution of the verification problem and will thus serve to facilitate the political decisions of the United States and the Soviet Union, and will eventually make a practical and important contribution to the role of the CCD in the field of disarmament.

With respect to our attitude towards nuclear explosions for peaceful purposes, a large majority of the experts at the meeting held under CCD auspices in 1975 were of the opinion that techniques at present cannot distinguish between nuclear explosive devices for weapon uses and those for peaceful uses. This technical difficulty was further made clearer in the provisions of the 1976 Treaty on Underground Nuclear Explosions for Peaceful Purposes between the United States and the Soviet Union. Judging from the above conclusion, it is clear that if we leave PNEs alone under the CTB, this might lead to the danger of (1) non-nuclear-weapon States acquiring nuclear explosive capability in the name of peaceful purposes and (2) nuclear-weapon States finding a loophole in the CTB. Noting this danger in PNEs, we firmly believe that PNEs should be conducted only under an international control system which can prevent this danger; however, until such a system is established, the nuclear-weapon States should refrain from PNEs on a voluntary basis.

CCD/PV.733 p.20

Mongolia/Erdembileg

3.3.77

CTB

We call on members of the Committee to proceed as soon as possible with negotiations on this question with a view to drafting the text of a treaty on the complete and general prohibition of nuclear weapon tests for the special session of the United Nations General Assembly.

During the negotiations the question of control will probably take up time and tax the patience of the participants. But it is nevertheless necessary to mobilize joint efforts in order to try to find a starting-point for the solution of the problem.

My delegation adheres to the firm conviction that national means of detection supplemented by international co-operation in the exchange of seismic data are quite sufficient for the identification of nuclear tests and the verification of compliance with

the provisions of the treaty.

In this connexion, the constructive proposal of the Soviet delegation concerning the question of control constitutes, in our view, a businesslike concept for finding a generally acceptable solution, which would clear the way for the achievement of general agreement.

CCD/PV.734 p.12

Netherlands/van der Klaauw

8.3.77

CTB

With respect to a comprehensive test ban, my delegation noted with great interest the introduction of a new draft treaty by the distinguished delegate of Sweden, Mrs. Thorsson, last week. My Government will comment on that draft in the near future, but I can already say that we consider the draft as a reasonable and balanced approach to the problems involved, taking into account different views expressed in this Committee and elsewhere.

The seismic Ad Hoc Group, set up last year, is making good progress in its work. To our great satisfaction, highly qualified experts from Eastern European countries have joined the Ad Hoc Group, fulfilling a wish which we and others expressed last year. Although a lot of work still has to be done by the seismic expert group, a sound working scheme has been set up to finalize the — probably extensive — report in due time.

We are also pleased that the Soviet Union now accepts the concept of on-site inspections in a way which has a strong resemblance to the idea — expressed already a long time ago by Sweden — of a system of "verification by challenge". Of course, even if all countries concerned could accept this verification-method, a lot of problems must still be solved: on which basis could a country request an on-site inspection, how would the on-site inspection be carried out, etc. All these problems can be solved, but it will take time. We only have to look at the detailed proposals made in the end of the 1950s on this subject, or to look at the on-site verification arrangements in the bilateral PNE agreement concluded in the context of the Threshold Test Ban Treaty, to realize that complicated negotiations lie ahead of us.

CCD/PV.735 pp.9-10, 12-13

Poland/Wyzner

10.3.77 CTB,CW

The Polish delegation, therefore, welcomes the fact that at this particular point in time the Committee has before it two new documents addressed to the prohibition of nuclear testing: the modified draft of a treaty on complete and general prohibition of nuclear weapon tests, submitted by the USSR (CCD/523), and a new draft treaty banning nuclear test explosions in all environments, tabled by Sweden (CCD/526). We will want to study the latter document carefully. Before I venture some preliminary observations on the new version of the document presented in the CCD by the Soviet delegation, I should like to note with satisfaction that in considering the question of a comprehensive nuclear test ban, the Committee will have the benefit of the scholarly opinion of the Ad Hoc Group of Scientific Experts, among them experts from Poland, who have under examination international co-operative measures to detect and identify seismic events. We would hope that their findings will confirm the views of those specialists from Sweden and from certain other countries who believe it possible to scale down somewhat the earlier claims as to the feasibility of decoupling underground test explosions. As it will be recalled, such decoupling possibility was once considered a major argument in support of on-site inspection requirement. A situation obtains, therefore, in which that argument appears to lose much of its credibility and on-site inspection can no longer be considered as an indispensable precondition to elaborating an adequately verified test

ban agreement acceptable to all parties concerned.

In the view of my delegation, the Soviet draft treaty on the complete and general prohibition of nuclear weapon tests may be a suitable basis for such an agreement, especially in view of the spirit of compromise which led the Soviet side to provide, as a crucial assurance of good faith, for the possibility of on-site inspection on a voluntary basis.

As was observed by the distinguished representative of the Soviet Union, Ambassador Likhatchev, the draft's underlying premise of basic equality between all the nuclear-weapon Powers — and hence the necessity of their joint negotiation of such a treaty — closely corresponds to the generally recognized principle of undiminished security of any party to a disarmament accord. To suggest otherwise does not seem realistic.

One additional comment on the document — we note with satisfaction the consistency with which the issue of nuclear explosions for peaceful purposes is placed within the context of non-proliferation of nuclear weapons. The suggestion to deal with it in a separate negotiating process and in a separate treaty appeals to my delegation. For one thing, that potentially contentious issue of evidently differing relevance to different States would be removed from negotiations whose overriding and primary task must be the complete and general cessation of nuclear weapon tests and the halting of the nuclear arms race.

As it is well known, Poland and other socialist countries opt for a comprehensive elimination of all chemical weapons, even if eventually reached through successive partial stages. We are of the opinion that the ultimate prospect of a final solution would have a catalytic effect upon the pace of our efforts towards that goal.

Admittedly, much more complex and challenging is the question of a generally acceptable verification system. The eventual compromise formula will inevitably have to reflect the fact that chemical weapons production characteristics, and the corresponding verification system, have more in common with biological weapons than with nuclear ones.

It also stands to reason that a widely acceptable verification mechanism in a future agreement on the elimination of chemical weapons must take due account of the following three considerations:

- (a) the existence and the general acceptance of the 1925 Geneva Protocol;
- (b) the degree of uncertainty as to the size and character of the existing stockpiles of "C" weapons; and
- (c) the specifics of the chemical industry and its close relationship to the growth of national economies of States.

The Polish delegation is confident that a satisfactory agreement can be worked out on all the outstanding and difficult questions if the flexible position of the Soviet Government on the elimination of chemical weapons, displayed in its recent memorandum (CCD/522), is matched with equal flexibility and good will from other parties. We are prepared to join in a constructive search for such common ground in an effort to see chemical weapons eliminated for ever from the armouries of all States.

CCD/PV.736 p.19

GDR/Herder

15.3.77 CTB,PNE

It is necessary that the nuclear-weapon States, in connexion with the negotiations on a treaty on the complete and general prohibition of nuclear weapon tests, should also agree upon special arrangements with regard to nuclear explosions for peaceful purposes. The Treaty between the USSR and the United States of America on Under-

ground Nuclear Explosions for Peaceful Purposes of 1976 could play a positive role in reaching such an agreement.

With regard to the problem of verification and control of compliance with a treaty on the complete and general prohibition of nuclear weapon tests, we confirm our view that national means of control supplemented by international exchanges of seismic data, still to be agreed upon, are sufficient. We fully share the view of the representative of the People's Republic of Bulgaria, Comrade Ambassador Nikolov, who on 24 February declared before this Committee that "control presents no technical difficulties and is no longer a genuine problem". We fully support his comprehensive explanations on the system of control. In order to confirm this point of view, the German Democratic Republic now participates with one expert in the activities of the Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and to Identify Seismic Events.

We are looking forward with great interest to the statement of the delegation of the United States of America on a CTB announced for this session.

CCD/PV.738

pp.12-13

Sweden/Thorsson

22.3.77

CW

I will now briefly turn to the problems presented by the proposed formulation of article I. The word "lethal" must be defined, for instance by one of the methods that were discussed at our last expert meeting. We see a particular need to make sure that toxins are included by such a definition, though already covered by the Biological Weapons Convention. Otherwise, ambiguous interpretations would perhaps be possible, e.g. with respect to verification.

Article I(a) also mentions "other toxic agents", which are qualified further in a phrase describing their properties as being "of a nature and intended primarily to cause long-term physiological harm to human beings". The exact meaning of each of these terms, such as the criteria of "long-term" and "harm" and the level of "physiological" must, of course, be clearly defined in the course of our continued discussions.

Likewise, the problem of binary chemical weapons is one of the long-standing issues of our deliberations. Some understanding appears to have developed that their production would be covered by the purpose criterion. In his presentation of the draft treaty, the United Kingdom representative pointed out that the wording "munitions" had been chosen deliberately in order to cover binary weapons (CCD/PV.720). Verifying binary munitions is, of course, an exceedingly difficult task. We would appreciate some comments on this subject by the United Kingdom delegation.

The draft mentions harm to human beings, but no mention is made of harm to plants and animals. It is not clear to us whether the suggested wording nevertheless does include harm to these living organisms also. To clear the matter up, one might consider the concept put forward in the Soviet draft convention on new weapons of mass destruction, which envisages inter alia such chemical damage to the human environment as may ultimately lead to harm or to destruction of human beings.

With regard to the provisions for verification outlined in the United Kingdom draft, the Swedish delegation essentially supports the suggestions made. We may need to come back to some details in the course of the discussion. The idea of establishing a consultative committee is in line with what has been suggested in the Swedish draft treaty on a CTB (CCD/526). An important question to solve concerns the mandate and working procedures for such a body, which would have so many sensitive tasks to perform.

We also note that the United Kingdom draft proposes that emphasis should be laid on the verification of declared chemical-weapons plants. This should have the effect of meeting the apprehensions voiced recently by the Polish delegate (CCD/PV.735) concern-

ing the peaceful chemical industry. However, as is clear also from the draft, it is not only the production of the agents which is of importance in preparations for chemical warfare. As has been pointed out earlier in the CCD, organizational and training activities within armed forces might, for instance, also be looked into.

Finally, Mr. Chairman, I want to turn to another, little-observed implication with respect to the chemical industry in case of war. If acts of war should involve areas which were both densely populated and the site of big chemical industries comprising large stocks of ordinary but rather toxic chemicals, a difficult situation might arise. If such stockpiles were attacked, the effects could be similar to those of a prepared attack against the civilian population with chemical weapons. An attack against such stockpiles could of course be accidental. However, if the attacker deliberately reckoned with the toxic effects of spread-out chemicals adding to the other effects of the bombardment, he would act in breach of the 1925 Geneva Protocol. Any attacker thus runs the risk of being accused of having offended against the Geneva Protocol, and a dangerous uncertainty may arise with respect to the possible use of chemical weapons.

Before ending my statement I would like to take up the Soviet memorandum and its possible implications for our work on chemical weapons. I think the members of the CCD await with great interest a further elaboration on what is intended by the phrase "additional supervision procedures" and with regard to the Soviet Union's expressed willingness to "discuss methods of verifying the destruction of stockpiles of chemical weapons". In this connexion I share the concern expressed by the Polish representative, who in his latest intervention pointed to the fact that a widely acceptable verification mechanism must take due account of the degree of uncertainty as to the size and character of the existing stockpiles of chemical weapons (CCD/PV.735). In view of our discussion last year on verification of the destruction of stockpiles, we would appreciate receiving some more specific ideas from delegations on this subject.

CCD/PV.739 pp.10-12

Japan/Ogiso

24.3.77

CW

(2) With respect to verification, a prevailing view is that "international" verification is necessary. To be more specific, a point of view which is becoming more influential is that it is necessary that we should conduct on-site inspections to ensure the undertaking of specific acts such as the destruction of stockpiled agents, and that it is possible that on-site inspections under international control, including some means of sealing, photographic evidence and so on, should supplement national means without intervening unjustifiably in order to control production.

However, the above-mentioned trends do not go beyond the concept stage, and the time has now come for us to try to find a practical means.

Last summer the representative of the Soviet Union, Ambassador Likhatchev, stated that "the Soviet Union...still advocates, a complete and general prohibition of...chemical weapons... At the same time the Soviet Union...has displayed its readiness to accept the idea...for a step-by-step approach to...prohibition, as a first step, of...lethal chemical means of waging war" (CCD/PV.714), and the memorandum presented by the Soviet Union at the spring session on 15 February 1977 reads "...the Soviet Union is ready...to discuss methods of verifying the destruction of stockpiles of chemical weapons..." (CCD/522). This is a good sign that the possibility of agreement on on-site inspection has emerged in the above statements.

These new developments contain a clue to a solution to the two big problems of these discussions, and may be compared to a gleam leading to a way out of the "dark" forest. Here I wish to present to you a working paper entitled "Some thoughts on the international control of chemical weapons" (CCD/529), and thus to make a contribution

to our work.

Mr. Chairman, with respect to the problem of chemical warfare agents to be prohibited, on which a number of suggestions have so far been made -- but they have not gone beyond general remarks and have been somewhat lacking in concreteness -- I would now like to make a concrete suggestion, referring to the Single Convention on Narcotic Drugs, 1961 (as amended), which functions effectively at present and to which, as of 1 March 1977, 109 countries, including most members of the CCD, are Parties. This can provide a useful suggestion for verification as well, which is very closely linked to chemical warfare agents to be prohibited.

The Narcotic Drugs Convention solves the problem of the definition and scope of narcotic drugs, which are extremely difficult to define but which need to be controlled, by adopting a method of annexed schedules. Referring to the Narcotic Drugs Convention, we should list, in a CW ban treaty, each agent in the appropriate table, to make it clear which agent should be prohibited and which agent should be declared and controlled. Thus we can modify article I.a of the British draft as follows: "chemical agents, listed in annexed tables I-III, of types and in quantities that have no justification for protective or other peaceful purposes", and at the same time we can make clear the scope of these agents. First of all, we should list in table I "single-purpose agents" used only for warfare, and should make them totally prohibited. Next, we should list in table II "dual-purpose agents" which can be used for both peaceful and warlike purposes, and we should put them under separate control. Finally we should list in table III the chemical substances which are listed neither in table I nor in table II and which have such dangerous characteristics that they can be used as chemical warfare agents, and we should prevent any State party to the treaty from transforming these substances into chemical weapons by imposing an obligation of notification on those States which are about to conduct such activities as their production, stockpiling and development.

When it becomes clear that some agents of these substances can be used as chemical weapons and when it is found necessary for them to be strictly controlled, they can be transferred to either table I or table II, as a result of a periodic review of these tables.

In case, as provided for in article II, paragraph 1, of the British draft, each signatory or acceding State undertakes on signature or accession to the treaty to declare the whole quantity in its possession of those chemical agents listed in tables I and II, we cannot deny that we may have some doubts as to the accuracy of the content of such declarations and that a certain amount of deception might possibly be used. Therefore we should conduct a careful study on the effectiveness, in the light of compliance with the treaty, of imposing on States parties obligation to declare the amount of those agents in their possession. We understand that article VII of the British draft, which provides for the destruction of these lethal chemical agents according to a phased programme, gives a certain consideration to this point. Here I would like to suggest, as a concrete method for such a phased programme, that (1) a State party to the treaty should destroy all the chemical agents listed in table I within a certain period (for example five years), should declare each year the amount of the agents to be destroyed in that year, and should actually destroy them according to a certain procedure which is to be checked each time through an on-site verification; and that (2), referring to the system of "estimates of drug requirements" provided for in article 19 of the Narcotic Drugs Convention, a State party to the treaty should submit annually estimates of requirements of stocks, imports and production of those chemical agents listed in table II necessary for peaceful purposes, and a control should be made on the amount of those dual-purpose agents, not to exceed the amount of those agents for peaceful purposes. Judging from such a prohibition and control of those chemical agents, we believe it quite effective to classify chemical warfare agents in categories in tables I, II and III.

This entire line of thought is a step forward, with the help of the formula given in the Narcotic Drugs Convention, from our previous thoughts as suggested in the draft treaty and the working papers (CCD/430, CCD/466, CCD/483 and CCD/515) submitted in the past by the Japanese delegation.

CCD/PV.740 p.11

Canada/Jay

29.3.77

CW

....While States like Canada with no CW capacity may consider that this puts us at a disadvantage vis-à-vis States with a CW capability, we can only point out that it is to our advantage to have some restraint, albeit not complete, upon the CW States immediately upon the coming into force of the treaty. We must work gradually and realistically to build up confidence and achieve a total ban not only on production but also on the stockpiling of CW agents and munitions.

With respect to verification, the Canadian position has been that some international verification would be necessary to implement even the first phase of a phased agreement and we welcome article VIII of the United Kingdom draft, which outlines the establishment of a consultative committee of the parties to the treaty to oversee the working of the treaty.

The Canadian delegation agrees that, as provided in article VIII of the United Kingdom draft, the effective operation of the treaty should be the responsibility of the parties themselves, rather than delegated to a separate international body.

In this context we also note the statement in the USSR memorandum submitted under cover of Mr. Gromyko's letter to the Secretary-General of the United Nations dated 28 September 1976 (Doc.A/31/232), which stated: "Supervision of compliance with the prohibition of chemical weapons should be based on national means. In this respect there exists a positive precedent in the convention banning bacteriological weapons. At the same time, the Soviet Union is ready to examine the possibility of using additional supervision procedures and, in particular, to discuss methods of verifying the destruction of stockpiles of chemical weapons which are to be excluded from the arsenals of States." We therefore hope that concrete and effective verification measures can be arrived at.

The United Kingdom draft calls for inspection by the consultative committee, six months after the treaty enters into force, of the cessation of production of prohibited agents and a specific number of on-site inspections each year, as well as the employment of seals to verify non-production. Article VII provides for the destruction or conversion of stocks according to a phased programme agreed by the consultative committee and the draft provides for on-site inspection by persons appointed by the consultative committee. The Canadian delegation supports these procedures. However, it may be desirable for any convention, or annex to such a convention, to contain more detailed provisions on the consultative committee's composition, procedures and terms of reference.

CCD/PV.740 pp.15-17

USSR/Likhatchev

29.3.77

CW

During the Committee's summer session in August 1976 the delegation of the United Kingdom submitted a draft convention on the prohibition of chemical weapons. We have observations of principle on a number of substantial provisions of this paper, and would like to offer them now.

To begin with, we cannot agree that the measures of control it suggests should mainly be international in nature. The Soviet Union, as we have repeatedly stressed in

the past, proceeds from the assumption that control over the prohibition of CW must be based on national means. The adoption of the concept put forward in the draft convention would mean, in substance, we are convinced, legalizing interference in the internal affairs of countries, and would inevitably lead to the disclosure of military, industrial and commercial secrets. In principle it can hardly be justifiable that an international consultative organ should have supranational powers.

The idea of prohibiting, in the first stage, only the production of CW raises serious objections, for the preservation of stocks would place those States which do not have such stocks in an inequitable position.

We also consider unacceptable that provision of the draft convention which amounts to an obligation to halt the production of CW immediately after a convention has been signed, that is, before its entry into force, when the question itself of the entry into force of the convention would still remain open.

Now we should like to dwell in greater detail on the question of control. It is a matter of special attention on the part of certain representatives and, in our view, its importance is obviously overestimated by a number of countries. We remain firmly convinced that questions of control cannot and must not be a pretext for delaying further the solution of the entire problem of the prohibition of CW. The Soviet Union holds the view that control based on national means of verification in combination with some international procedures, which we have already repeatedly spoken about, is a sufficient guarantee of compliance with a corresponding agreement by all its parties. In this regard a positive precedent was established by the Convention on the prohibition of biological weapons. We would like to add the following to this.

Possibilities of national control have considerably increased in recent years: the efficiency of physical, chemical and biological methods is now such that it makes it possible to record the presence of extremely small quantities of a substance in a sample, which can, moreover, be done by the use of extraterritorial remote detection means.

The fact that the possibilities of national control are sufficiently broad and are based on scientifically proved methods has been demonstrated, in particular, by Soviet experts in the course of informal meetings at the last session of the CCD. A positive contribution to the examination of this matter has been made by certain countries conducting research on possibilities of control by national means, for instance through laboratory methods based on up-to-date instrumentation, and this is considered in detail in working paper CCD/501 submitted by Finland.

Interesting data testifying to broad possibilities of national control are contained in working paper CCD/371 of 27 June 1972 submitted by the delegation of the United Kingdom. The paper discussed the possibility of remote detection of CW tests carried out in field conditions. It is evident that up-to-date technology now makes it possible to increase considerably the efficiency of these methods and to ensure fairly effective control over compliance with a whole number of provisions of a future convention on the prohibition of chemical weapons. Extensive possibilities of extraterritorial control over the production of chemical agents are connected with indirect methods and, in particular, with statistical analysis based on the evaluation of consumption of primary and intermediary substances used in the production of chemical agents.

Possibilities of indirect control with the use of statistical methods based on new generations of computers have also increased. Indirect methods of control can be particularly effective for the purpose of extraterritorial control when they are based on the analytical processing of a large variety of generally accessible information covering the spheres of the development, production and stockpiling of chemical agents.

Some specific matters connected with the use of statistical analysis in the sphere of production have already been examined, for instance, in working papers submitted by the delegations of the United States (CCD/283) and Japan (CCD/344 and CCD/430).

Thus, national means should be the basis of a system of control guaranteeing a multi-purpose and effective solution to this problem.

We are also ready, as is indicated in the Soviet Union's Memorandum on questions of ending the arms race and disarmament, to examine a possibility of resorting to additional control procedures and, in particular, to discuss techniques of verification of the destruction of CW stocks to be eliminated from the arsenals of States.

We understand the interest being shown by delegations in further details with regard to this statement of ours. Such interest was shown, in particular, by the distinguished representative of Sweden, Mrs. Thorsson, at the Committee's meeting on 22 March 1977. The Soviet delegation intends to express its views in this regard later.

CCD/PV.740

pp.20-22

FRG/Schlaich

29.3.77

CW

Certainly, it is the problem of effective verification which is the most difficult one. The differing views on this question have indeed so far proved to be the main obstacle on the way to an agreement. For this reason, the Government of the Federal Republic of Germany welcomes especially the fact that the Soviet Government in its memorandum on disarmament declared its readiness to discuss methods of verifying the destruction of chemical weapons to be removed from national arsenals. But even if agreement on admitting observers to the destruction of stocks were reached, two other questions would remain:

How can we ensure that no clandestine stocks are retained, and

How can we further be sure that no new weapons are produced and no new stocks built up.

As far as I can see at the moment, there are as yet no satisfactory answers. A particularly difficult question is -- for instance -- how to ensure that no dual-purpose agents are diverted from peaceful to military purposes. Supervising a ban on the production of single-purpose agents may seem to be easier, but should not be underestimated either.

Of course, we are aware that no verification system can give us an absolute guarantee that the convention, once adopted, is really observed and fully complied with. However, we do not think the conclusion justified that no effective verification is possible and that, therefore, verification should play a minor role in further deliberations or be left out of them altogether. This would not be compatible with our aim to enhance or at least maintain international security through arms control.

The Government of the Federal Republic of Germany has always made it very clear how much importance it attaches to a verification system which would be sufficiently effective. This would only be the case if such a system made detection so probable that it would constitute an effective deterrent to treaty violations.

We strongly believe that such a sufficiently effective verification system, if it is to deserve this name, could not only be provided for by national means and by the possibility of a complaints procedure with the Security Council, according to the example of the B-Weapons Convention. Nor would we consider the verification provisions of the Enmod Convention to be sufficient. A highly important aspect of the adequacy of a verification system is the military importance of the weapons to be banned. In our opinion, the present military importance of C-weapons considerably exceeds that of B-weapons or of the environmental modification techniques covered by the Enmod Convention.

We do not believe that a verification system, if it is to be effective, can be limited to an exchange of information, however detailed. On-site inspections will be necessary, but not only for the destruction of stocks.

In our view -- and there seems to be broad agreement about this -- a sufficiently effective verification system would have to consist of international instruments and combine various methods. Interesting working papers have been presented in order to examine how the fullest use can be made of the possibilities of a centralized information exchange. However, we should be careful not to overestimate these possibilities. Therefore, I do not think that we can dispense with the instrument of on-site inspections. After examining this question we reached the same view which Ambassador Martin expressed here about a year ago, when he said that "the effectiveness of this technique in deterring determined evasion schemes would be extremely limited, especially in large countries with closed societies and self-sufficient, highly centralized economies".

We do not overlook the concern of some States that on-site inspections or even detailed information could reveal quite legitimate secrets about production processes, but we believe that such a verification system could be modelled in a way which would not impair the protection of legitimate interests.

It appears, however, that while solutions for some problems of verification will be at hand sooner, for others they will be found only later. As I mentioned before, there is not yet a solution in sight for the question of how to ensure that no clandestine stocks are retained. It has been especially this question which influenced proposals advocating a step-by-step approach. We understand that this is a strong argument in favour of elaborating a programme for the phased destruction of certain quantities of stocks which could not be defined in percentages of total stocks -- as this would not be verifiable -- but in absolute figures. An approach of this kind seems all the more unavoidable as experts assure us that, for technical reasons, the destruction of all stocks would take many years.

Any destruction of stocks would, however, be scarcely satisfactory if their replacement by freshly produced new stocks were not also effectively prohibited. Therefore, also in a step-by-step approach, all new weapons production would have to be banned immediately. This would have to apply to all States alike without discrimination.

The formulae presented in the United Kingdom draft for an adequate verification system are more in line with our own thinking than those of former draft conventions. Let me repeat in this context what I said last year during the informal CCD meeting with the participation of experts on this subject:

"A mixed verification system can, even when based to a large extent on national instruments and institutions, hardly function without an international verification body. Such a body would be composed of representatives of the contracting parties. Its functions would, for example, include: compiling relevant information based on reports and material provided by the contracting parties and also from generally accessible sources, monitoring scientific and technological developments which have a bearing on the prohibition, and, not least, carrying out agreed on-site inspections."

As to the present meeting with experts, I should like to say that I am fully confident that it will contribute to enhancing our understanding of the difficult problems of definition and verification.

Looking at the wealth of suggestions, proposals and technical information which has been made available to us through working papers, draft conventions and declarations, we are particularly grateful for the compilation of material prepared by the Secretariat. This compilation gives us a very good survey and is therefore most useful.

Already last year's session had been marked by particularly intensive discussions. I believe that the present meeting and the discussion of the various draft conventions before us, first among them the United Kingdom draft convention on the prohibition of chemical weapons, offer us a good chance for bringing differing views closer together so that the phase of active negotiations on a draft convention itself -- article by article --

can soon begin.

CCD/PV.740 pp.26-28

USA/Meyers

29.3.77

CW

We also have some comments on the specific provisions of articles II and III.

Article II, subparagraph 1.c., refers to facilities capable of producing prohibited items. It would be useful to know how this criterion would be applied. In a large, industrialized society, it would be extremely difficult, if not impossible, to identify all the facilities which are capable of making CW agents, munitions, and delivery systems. Nor would a list of hundreds, or even thousands, of facilities be very informative.

For verification and assurance purposes, we believe it would be sufficient to require information on those facilities which have produced single-purpose CW agents or single-purpose precursors, or were designed for that purpose, and on those facilities capable of producing super-toxic agents. If it is thought important to include facilities which produce less toxic chemicals, then this should be tied to a list of specific chemicals associated historically with CW, such as phosgene and hydrogen cyanide, or which are judged to be particularly important for other reasons. Maintenance of such a list might be the responsibility of the consultative committee provided for in article VIII.

For the same reason, we believe it would be sufficient to limit the reporting specified in article II, subparagraph 1.d., to super-toxic and single-purpose agents and single-purpose precursors. If it is thought important to include dual-purpose chemicals, then this should be tied to a similar list of specific chemicals.

Article III, subparagraph a., allows factories which previously produced single-purpose agents to be converted to production of chemicals for peaceful purposes. We believe that such use could undermine confidence in compliance and might require intrusive verification measures. As a practical matter, we doubt that there are many plants, if any, whose conversion to peaceful production would be particularly useful. For these reasons, we believe that it might be better to close down or dismantle former CW agent factories, since verification of these actions would be relatively simple. A temporary exception might be made if the facility is required for use in stockpile destruction.

In addition, we believe that further measures should be considered for confidence-building purposes, particularly with respect to CW protective activities. The purpose of such activities is inherently ambiguous. They are, of course, essential for defence against chemical attack. On the other hand, a well-developed CW protective posture is a key element of a CW offensive capability. Unless measures can be developed which will engender confidence that the CW protective activities are solely for defensive purposes, there will inevitably be concern that they are part of an attempt to maintain a clandestine offensive capability. We believe that such destabilizing suspicions might be minimized by exchange of information on the nature and purpose of specified activities and by co-operation in improving means of medical or physical protection.

The provisions of article VI, which prevent the spread of chemical weapons capabilities, are essential, in our view, to ensure that the objectives of the convention are achieved.

Article VII contains provisions concerning destruction of chemical stocks. This article envisages the destruction of CW stocks in accordance with a phased programme agreed by the consultative committee; thus, it appears to mean that the schedule for destruction would not be worked out until after the convention has come into force. However, we might expect some States to be reluctant to join an agreement unless a specific plan regarding destruction of stocks were included, rather than deferred for subsequent consideration in a consultative committee.

The United Kingdom has already suggested that the terms and conditions for inter-

national inspection of the destruction process should be specified in a protocol to the convention. Perhaps the phased programme could be handled in the same way, so that all the detailed provisions regarding destruction would be worked out as part of the negotiations of the convention.

Turning to article VIII, the United States has long believed that a consultative committee would be an important feature of an effective CW agreement. We note that article VIII provides for establishment of such a committee. In order to ensure the effectiveness of this body, we believe that, in addition to outlining its functions in the agreement, it would be necessary to specify its composition, decision-making procedures, and method of operation — either in the agreement itself or in an annex.

While we favour detailed treatment of the committee either in the agreement or an annex, we wish to avoid creating an elaborate international mechanism for CW treaty implementation. As United States representative Martin pointed out in his statement of 13 April 1976, we do not favour the creation of a new international organization to assist in implementing a CW agreement.

Article IX specifies the general nature of the on-site verification arrangements. We believe that these arrangements would have to be elaborated in detail in an annex. Such detailed provisions would cover the specific verification activities to be carried out, including on-site inspection requirements and timing, and the privileges and immunities of verification personnel.

In the United States view, consultation among parties will certainly be important to resolve any problems which may arise. Thus, we believe that the undertaking in article X concerning consultation and co-operation is an important one. Since it was drafted before work on the Environmental Modification Treaty was completed, it does not, of course, reflect the progress achieved in that Treaty in devising improved arrangements for consultation and co-operation. We believe that at a minimum the improved arrangements should be embodied in any CW convention as well. In fact, it seems to us that even more responsibility for resolving complaints could be given to the consultative committee in a CW convention.

These comments and suggestions are offered in a constructive spirit. We believe that the United Kingdom draft represents a basically sound approach and will greatly facilitate the work of the CCD.

CCD/PV.741

pp.14-15

Netherlands/Kooijmans

31.3.77

CTB

A second implication of the system of the Swedish draft concerns the verification provisions contained in article III. While paragraph 2 of that article is limited to the question of underground events, the other paragraphs are of a general character and therefore equally apply to the observance of the obligation not to carry out nuclear explosions in the atmosphere, in outer space or under water. I have no objections of principle to this, but I do have reservations for pragmatic reasons. The Partial Test Ban Treaty of 1963 was precisely based on the view that no international verification procedures were needed to ensure the observance of a test ban in other environments than underground. So far this system has worked well, and I think we should not complicate the problems more than necessary. The national verification methods used for the verification of the test ban in other environments are in any case different from those needed for the verification procedures spelled out in paragraphs 3 and 4 of article II.

I come now to the verification of the ban on underground explosions, including the possibility of carrying out on-site inspections on invitation, which is, as Mrs. Thorsson explained, the well-known idea of "verification by challenge". Although we still do not know the position of some nuclear-weapon Powers in this Committee, I would hope that

a common basis can now be found on this subject. Leaving aside for the moment the question of how to conduct peaceful nuclear explosions under test ban conditions, I would like first to say something on the presumed international seismic data monitoring system. I think the general view exists here — to my regret — that any international monitoring system would not have the mandate to indicate whether a seismic event is either an earthquake or an explosion. The monitoring system — which could be an elaborate data-exchange and data-screening bank, a communication system only, or something in between — would, as my delegation gathered from the discussions about and in the Ad Hoc Group of Scientific Experts, only provide national seismological centres with the data necessary for them to draw their own conclusions as to the character of seismic events. Doesn't this mean that an opportunity is being missed to make a step towards an international body with genuine fact-finding powers? I will not comment now on the structure of the monitoring system, since more meetings will be held by the Ad Hoc Group of Scientific Experts on this question. I only would like to stress that, in our view, the system has to be set up in such a way that small countries can also play a role in the assessment of seismic data. It should not be a system which can be used only by large countries having large national data-handling systems.

Let me discuss now the situation that the international monitoring system provides data on an unclear event to national seismological groups. Which procedures do countries have to follow when they cannot come to a conclusion as to the nature of the event, even after they received all the relevant information on the event in question from the international monitoring system and/or from the country in which the event took place? A country could then presumably ask for an on-site inspection. But what would happen if 40 countries ask for on-site inspections with regard to the same event? It is clear that certain procedures for consultation and co-operation are desirable. Therefore, my Government can endorse the concept of a consultative committee as proposed in the Swedish draft treaty. My delegation is ready to take part in discussions on the functions and rules of procedure of such a committee. The Committee might provide an opportunity for smaller countries to participate in the verification system of the treaty, which is in our view an important political consideration. The verification of a comprehensive test ban should not be a matter of nuclear-weapon States only; all countries have a vital interest in the test ban and in the proper enforcement thereof.

CCD/PV.741

pp.18-20

Netherlands/Kooijmans

31.3.77

CW

I will not go deeply into the substance of a ban, but only make a few general remarks. After studying the statements made in the past, particularly during last year's session, I get the impression that perhaps agreement could be reached to ban all lethal chemical weapons at the same time. A discussion point is still whether a ban also has to include incapacitants and other non-lethal agents from the start. Leaving aside the question of riot control agents, I would like to plead for a comprehensive approach for two important reasons. Firstly, I am afraid that, under conditions of a ban on lethal weapons only, research could be directed towards all kinds of incapacitants, including sophisticated chemicals with long-term effects. Developments in the fields of drugs are very fast. It would be regrettable if, after the conclusion of a lethal CW ban, various kinds of new non-lethal chemical weapons would be introduced into arsenals. I was gratified to note that the United Kingdom draft convention took this question partly into account and I also noted with great interest the United States document CCD/531. Secondly, a partial ban could have the result that an important verification possibility would be lost, since under a partial ban chemical munitions would probably still be allowed to exist. It would be very difficult to establish the character of the chemical

agents in the munitions without very intrusive verification methods. In a comprehensive prohibition all chemical munitions which could be used on the battlefield would be prohibited, offering an important additional verification method.

I think that we all agree that the verification of a ban on the development, production and stockpiling of chemical weapons is very difficult. The need for international verifications is bound up with the risks for national security should the ban be evaded. The degree of verification asked for depends on, *inter alia*, national perceptions of the CW threat (including the different dangers which different agents present), the practicability of international verification procedures, the possibilities of collecting relevant information by other means (which depends mainly on the amount of openness of a society), mutual trust, and other factors. For example, I could imagine that countries would like to see an effective international verification system with respect to the production of single-purpose highly toxic nerve agents, but would be more relaxed with respect to militarily less effective agents, which would be difficult to verify in any case, since they are used in great quantities in the civilian chemical industry. However, countries could easily come to different conclusions with respect to, for example, the CW threat, as was rightly pointed out by members of the Group of Fifteen in the past. A reasonable compromise between all members of the Committee on the necessary verification measures must be found.

Which verification system we shall decide upon I do not know, but I would like to underline that an efficient international verification system will need to be based on different methods which reinforce each other. A verification agency or committee must therefore have a certain flexibility of operation. As you know, my country proposed the setting up of a disarmament agency with, as its first task, control over a CW ban. We are of the opinion that such an agency has to be set up in any case in the long run to assist in the implementation of disarmament treaties and, for instance, to give a certain structure to the system of review conferences.

In our approach to the problem of chemical weapons we should always be aware of the fact that there is already a prohibition on the use of chemical weapons, laid down in the Geneva Protocol of 1925. The purpose of chemical disarmament should be to strengthen this ban further, that is, to minimize the likelihood that chemical weapons will ever be used in the future. This implies that we should strive after a prohibition both of the production of chemical weapons and of their possession, and of any preparations for their use. The question has arisen whether this final goal can be reached in stages, and in particular whether a ban on the manufacture of chemical weapons could precede the entry into force of a prohibition on the possession of such weapons. An example of this phased approach is represented by the United Kingdom draft convention. Against this approach the objection has been raised that it would have a discriminatory effect, legalizing a situation of "haves" and "have-nots", and that therefore only a simultaneous prohibition of production and possession is acceptable. I wonder whether the two approaches are really as far apart as it may seem. We have to realize that the destruction of existing stockpiles will take a long time in any case — say at least five years. My Government is therefore prepared to give positive consideration to the idea of a phased approach. On the other hand, we share with Sweden and others certain doubts about some legal aspects connected with the signature, ratification and entry into force provisions as proposed by the United Kingdom.

The problems relating to the scope of a ban on chemical weapons, the verification procedures and a possible phasing in the implementation will no doubt be the subject of intensive discussions in the framework of this Committee during the coming months. I think that signs for potential progress in this field can now be perceived. I should like to conclude my statement of today by expressing the hope that these discussions will produce, before the end of the summer session, a significant meeting of the minds with

regard to the conditions for achieving chemical disarmament.

CCD/PV.741 pp.29-30

Italy/di Bernardo

31.3.77

CW

The fact remains, however, that the scope of the treaty, as shown by the already long history of the debate on chemical weapons, will have to be carefully investigated by the working group, with the assistance of experts.

Article II offers an analytical tool of considerable and practical value for determining the agents to be banned. In fact, independently of the dispute as to the viability of the various criteria suggested in the past for their identification, consistent stocks of chemical agents, or at least some of them, certainly exist, which beyond any doubt fall within the category of the agents to be banned.

Concerning subparagraphs c. and d. of the same article, we must not forget the need to draw a clear distinction between factories producing chemical warfare agents, factories producing chemical substances for peaceful purposes and, finally, factories which can be used to both ends. This is a problem that, in our opinion, should be closely focused upon by experts in the framework of the ad hoc working group, in order to arrive at a thoughtful solution, even if based on a compromise.

With regard to article III, subparagraph d., we have similar concerns. As the munitions, equipment and systems specified in article I can be utilized for different purposes, we should make an effort to make the text more explicit in order to avoid any possible ambiguity and misunderstanding as to the specific munitions, equipment and systems to be covered.

More generally, however, we share and support the rationale of these provisions which provide a confidence-building measure of a constructive character. Evidently one can cast doubts on the readiness and the willingness of States to accept restraints before a treaty really comes into effect, but it seems to us that all the possibilities suggested in the United Kingdom formula should be openly explored.

Article VII of the United Kingdom draft convention provides for the destruction or the conversion to conventional use of existing stocks of chemical weapons. We attach great importance to the strict observance of such an obligation. In harmony with the general spirit of the convention, which contains a verification system taking into account the possibility of on-site inspections, we hold that the problem of the destruction of the stocks should be put and resolved along the same lines, and verified through appropriate and effective international procedures.

Another important provision of the United Kingdom draft is article VIII, which provides for the establishment of a consultative committee.

The main requirements of such a body should be effectiveness and impartiality. My delegation is ready to study further the question of its composition, its functions and working methods, which could be elaborated in an annex to the convention.

Turning now to article IX, I should recall that the Italian delegation has from the outset stressed the importance of verification, both for investigation of the destruction of stockpiles of CW and for deterring violations of the provisions on development, production and use of chemical warfare agents.

We are all aware that there are here different positions on this essential subject.

It seems to us, however, that the United Kingdom draft offers a very practical way of tackling our problem, combining usefully and with harmonic proportion national means of verification with international mechanisms of control.

We welcome the United Kingdom approach as a major step in the right direction and we would be very happy if the ad hoc working group we have proposed would go further into the details of different aspects of the verification arrangements.

Finally my delegation wishes to endorse fully the principle of consultation and co-operation between the parties to the treaty set forth in article X. This is a very important provision indeed, which requires an attentive drafting.

CCD/PV.741 pp.31-32

UK/Ashe

31.3.77

CW

The problem of the verification provisions of a CW convention have been referred to on several occasions during our meetings this week — both in plenary sessions and at the informal meetings with experts. I do not want to go into detailed consideration of these very difficult questions now, but only to repeat the principle that there are two aspects of verification which might with advantage be considered separately. These are, first, the verification of destruction of existing stockpiles of chemical agents and weapons and, second, the verification of non-production of chemical warfare agents for generation of a new or replacement military capability for chemical warfare. I have referred first to the destruction of existing stockpiles because this is a real disarmament measure involving the actual destruction of weapons and therefore having major implications for military security. A high level of assurance of destruction of stockpiles would be required and for this we can see no alternative to the presence, on-site, of internationally acceptable supervisory personnel who would also need to have the technical capability for confirming the nature of the material to be destroyed and the completion of the process. As we consider this aspect to be so important, we particularly welcome the re-statement by the distinguished representative of the Soviet Union, Ambassador Likhatchev, at our last meeting of his Government's willingness to "discuss techniques of verification of the destruction of CW stocks" and we look forward with interest to the further details he promised us.

CCD/PV.742 p.7

Yugoslavia/Lalovic

5.4.77

CW

As it is well known, my delegation from the very beginning has insisted on a comprehensive ban on chemical weapons, because we consider that this is the only realistic way to achieve a lasting solution. Nevertheless, in the case of the so-called step-by-step approach, each step must be strictly determined and limited in time with the aim of reaching as urgently as possible the final goal, namely, a comprehensive ban on chemical weapons. Otherwise, a partial solution may in fact help to preserve the present situation and postpone the solution of the problem ad infinitum.

One of the main obstacles in our previous discussions was the problem of verification. Verification should ensure: (a) controlled destruction of existing stockpiles of chemical weapons, (b) efficient supervision to ensure that the ban on development and production is respected, and (c) prevention of the proliferation of chemical weapons and technology.

We consider that a unified system of national and international control measures could be one of the possible ways of organizing the verification process, with particular emphasis on the prevention of a proliferation of chemical weapons. For those countries which do not possess chemical weapons, it should not be particularly difficult to accept on-site inspection in certain cases, but only on condition that such control is carried out in the territories of all States parties to the Treaty.

CCD/PV.743 pp.9-10

Romania/Ene

7.4.77

CW

Verification is an important aspect of the problem.

As far as we are concerned, we have no preconceived ideas regarding the methods to be used, nor do we relate them to their national or international nature. As with the solution to any world problem, the achievement of disarmament must be based on international solidarity. Consequently, regardless whether the methods in question are national or international, the system of disarmament control could always prove to be a very difficult problem to solve if control is separated from the concept of international co-operation. In our view, it is essential that the control system envisaged should be based on a number of principles, namely, respect for the equality and sovereignty of the States parties, non-interference in their internal affairs, and the desire for sincere co-operation in order to achieve disarmament. If respected as a whole, these principles would be able to provide all the conditions for a control system corresponding to international law and fully capable of increasing confidence among the States parties.

We also believe that there is now a wide range of technical possibilities available to us for verification purposes which would satisfy all requirements. We also attach importance to the proposal that the control system for chemical weapons should include, together with technical methods, a certain institutional framework for the parties. It is obvious that, under present conditions, not all States are able to pursue rapid development in the field of chemistry. For the less-advanced States, which are equally concerned with observance of the convention, such a framework would give them an opportunity for direct and effective participation.

CCD/PV.744 pp.8-9

Mongolia/Erdembileg

14.4.77

CW

We do not deny that the greatest measure of disagreement on this complicated problem arises from the question of a generally acceptable system of control.

Nevertheless, it should be emphasized in plain terms that, in present circumstances, when there is a clearly expressed interest on the part of the overwhelming majority of States in an effective prohibition of chemical weapons, negotiations for the settlement of this vital problem should not be protracted by complicating the question of verification and exaggerating the significance of international control measures.

It might be asked why there should be such undue concern with control measures affecting the sovereign rights of States when these could easily be avoided by ensuring sufficiently effective control over compliance with the provisions of the convention through national means of verification in combination with certain international procedures.

Such a rational way of solving the problem of control is fully justified by present-day practice relating to international treaty law. Furthermore, the possibility and efficacy of national means of control are growing apace as a result of the rapid development of scientific and technical achievements. This was convincingly demonstrated by the experts from socialist countries in their statements at the recent informal meetings of the Committee.

As is well known, the Committee welcomed the statement contained in the Memorandum of the Soviet Union on questions of ending the arms race and disarmament concerning its readiness to examine the possibility of using additional supervision procedures and, in particular, to discuss methods of verifying the destruction of stockpiles of chemical weapons which are to be excluded from the arsenals of States. We hope to see in the Committee evidence of reciprocal flexibility and of a spirit of compromise on the part of the principal Western partners in the negotiations.

I would now like to make some comments on the draft convention submitted to the Committee by the United Kingdom in August 1976.

First, as should already be obvious from the considerations presented above, my delegation has serious objections to the provisions concerning the question of control in the United Kingdom draft.

Furthermore, article I of this draft provides that States parties to the Convention undertake, inter alia, not to use chemical weapons. We cannot agree to this provision in view of the fact that it could cast doubt on and even detract from the effectiveness of the provisions of the 1925 Geneva Protocol which has proved a useful and effective international instrument for over 50 years.

We know that the United Kingdom draft convention contains a provision imposing definite obligations on States prior to its entry into force. Explaining this provision in the draft convention the distinguished representative of the United Kingdom, Ambassador D. Ashe, in his statement on 31 March this year referred to article 25 of the Vienna Convention on the Law of Treaties which mentions the possibility of such a practice. However, in our opinion, it is clear that such a practice cannot be applied to disarmament problems which are directly bound up with the national security interests of States.

In connexion with article III of the United Kingdom draft, my delegation endorses also the opinion expressed here in the Committee that the prohibition in the first stage only of the production of chemical weapons could be unfair to States without such stockpiles. We are convinced that the process of prohibition must be comprehensive and must run concurrently as regards the development, production, stockpiling and destruction of chemical weapons.

In concluding my statement today, I would like to say that the Mongolian People's Republic was among the first to ratify the Convention on the Prohibition of Bacteriological Weapons, on the firm understanding that this international agreement bans not only biological but all types of toxin weapons. For this reason our delegation does not think there are any grounds for extending the application of the provisions of the future convention on the prohibition and destruction of chemical weapons to toxin weapons.

CCD/PV.745

pp.10-11

Iran/Fartash

19.4.77

CW

We have, however, graver doubts about the possibilities of gaining acceptance of article III, which calls for a production halt before any verification measures are available. While we sympathize with the objective of this approach, it is difficult to believe that States would accept the obligation to halt CW production before entry into force of the convention. Would this not in fact disadvantage those States acting in good faith, especially in view of the extreme secrecy which has shrouded chemical weapons production almost everywhere?

In article IV the draft provides for a time limit for the entry into force beyond which date the signatories would be relieved of the obligations incurred upon signature. This measure is presumably to assure States that CW production will not be cut off too long before verification and stockpile destruction will be undertaken. Thus the deadline stipulated by article IV would have to come relatively soon after the opening of the convention for signature. But the pressure to meet a deadline might jeopardize entry into force of the convention, for States might be delayed in taking this step for legitimate reasons. One need only remember the three years between the signature of the Biological Weapons Convention and its entry into force.

In principle we would have no objection to the choice made by the United Kingdom regarding the sequence of phased activities in the draft convention. The danger of

proliferation of chemical weapons has been invoked as a justification for a production ban preceding stockpile destruction, and this danger is in fact causing growing concern. We also recognize other arguments in favour of this sequence, especially the need to maintain some deterrent in case of clandestine activities. Thus the destruction of stockpiles as stipulated in article VII would begin after the convention had entered into force. However, the draft seems to leave even initial stockpile reductions to a relatively late date. Between the pre-ratification measures of stage I and the measures relating to stockpiles in stage III, parties would have to wait for the completion of stage II covering the ratification of the convention by the requisite number of States for entry into force. This, in our view, would leave the dreaded and excessively dangerous chemical weapons available too long after an agreement had been reached to ban these weapons.

Here we would agree with previous speakers that stockpile destruction should take place in the shortest possible time, and the need for haste has been highlighted by the widely held view that complete destruction would take at least five and probably ten years.

The verification measures provided by the United Kingdom draft cover well the various facets of CCD discussions on this subject. There is provision for verifying cessation of military production, monitoring peaceful production and observing stockpile destruction, and mention has been made of wide-ranging modalities, from the periodic reports of national organizations to on-site inspections as agreed. However, it is clear from the statements made that we are still far from a similarity of views on this matter.

The United Kingdom statement of last August referred to the possibility of drawing on the experience of IAEA nuclear safeguards for the verification of a CW convention. It pointed out that IAEA has demonstrated its ability to establish effective safeguards without undue interference into commercial nuclear activities. While agreeing with this evaluation of IAEA, we are more doubtful about the possibility of transplanting a similar system to the CW area. As recognized by the United Kingdom, the size of the chemical industry compared to commercial nuclear activities poses a different and more complicated problem. Moreover, IAEA was present at the birth of the peaceful nuclear industry, whereas the chemical industry has a long history of unhampered development with very little international regulation.

The United Kingdom draft provides for a consultative committee which will have the main responsibility for surveillance of compliance with the convention. It is interesting to note that this idea of control by the parties to the treaty themselves is gaining acceptance as an appropriate form of verification. The unresolved controversy between the demand for some form of international verification and the insistence on exclusive reliance on national bodies has been mentioned in our previous statements, and we have stressed the need for a solution involving a minimum of intrusiveness. A consultative committee, if acceptable to all the parties, might eventually answer most of these questions.

CCD/PV.746 pp.9-10

Mongolia/Erdembileg

21.4.77

CTB

Today I should like to explain in somewhat greater detail my delegation's views on three basic aspects of the problem of general and complete prohibition of nuclear weapon tests, and at the same time to make some preliminary remarks on certain provisions of the draft treaty (CCD/526) submitted by the distinguished delegation of Sweden on 3 March of this year.

I should like to start with the problem of control. As we have stressed on a number of occasions, national methods of detection, supplemented by international co-operation

in the exchange of seismological data, can be fully effective and adequate for verifying the compliance by States with the obligations assumed under the treaty. This provision, supplemented by the constructive proposal of the Soviet Union on the possibility of on-site inspections conducted with the permission of States, can serve as a basis for reaching a consensus on this question. We should like to express the hope that advocates of on-site inspection will carefully consider their positions and will in turn take steps which would promote the reaching of a generally acceptable agreement.

An encouraging fact, in our opinion, is the relative correspondence between the articles of the Soviet and Swedish draft treaties relating to the question of control.

Nevertheless, article III of the Swedish draft treaty does not clearly reflect the method of using national means of detection to which States parties will naturally resort mainly by reason of their accessibility.

Since the treaty will provide for the prohibition of nuclear weapon tests in all environments, it is understandable that not only seismological stations, but other ways and means may be used as national means of control.

We would also like to obtain from the distinguished delegation of Sweden some explanations concerning the provision concerning so-called technical supervision of the compliance with the treaty in article III, paragraph 2, of its draft. Does this mean an account of the nature and content of seismic data which will be exchanged in the course of international co-operation in this sphere? Or is reference being made to some other measures directed towards the organization and co-ordination on an international scale of the exchange and processing of seismic data connected with supervision of compliance with the treaty?

With regard to the consultative committee proposed in article III, paragraph 4, of the Swedish draft treaty, my delegation wishes to state that such a committee, if created, can have no competence whatever to take part in any on-site inspections. This view is based on our conviction that on-site inspections will be carried out solely by the State party which has raised the question of control and after the voluntary agreement of, and according to the procedures established by, the Government on whose compliance with the treaty doubts have been cast.

I should now like to say a few words on peaceful nuclear explosions. I shall not reiterate here what has often been said in the Committee concerning the interdependence of this problem with, and the significance of its solution for the achievement of, the main objective of the universal prohibition of nuclear weapon tests.

In our view, the main point is that there should be no loopholes in the conditions governing the general and complete prohibition of tests that would allow peaceful nuclear tests to be used to perfect nuclear weapons.

In addition, we find it difficult to agree with the views of certain delegations which advocate total abandonment of peaceful nuclear explosions with a view to reaching agreement on the main problem.

In this matter my delegation bases its views both on the fact that all States should be able to enjoy the possible benefits of the peaceful use of nuclear explosions as well as on the real possibility of reaching generally acceptable agreement on their legal regulation through the due expression of the political will of States.

The Mongolian delegation is firmly convinced that attempts to solve the problems of peaceful nuclear explosions must be based primarily on article V of the Treaty on the Non-Proliferation of Nuclear Weapons. Such an approach would not only facilitate the practical solution of the problem itself, but would correspond to the objective of strengthening the non-proliferation Treaty. In our opinion, article III of the Soviet draft treaty on the complete and general prohibition of nuclear weapon tests is fully in line with the need for further effective negotiations on this question.

We are in complete agreement that, as it is stated in paragraph 2 of this article of

the Soviet Union draft treaty, underground nuclear explosions for peaceful purposes will be conducted by States not possessing nuclear weapons, in accordance with the provisions of article V of the Treaty on the Non-Proliferation of Nuclear Weapons. As regards States possessing nuclear weapons, provision is made for the conclusion of special agreements between them.

CCD/PV.746 pp.12-14

Canada/Jay

21.4.77 CTB,PNE

One of the major stumbling blocks in ending all nuclear testing has been seen to be the problem of verification. Another difficulty has been the interest of some States in the use of nuclear explosions for peaceful purposes. Canada welcomed the successful negotiation by the United States and the Soviet Union of the TTBT of 1974 and the related agreement on peaceful nuclear explosions, in part because of the progress made in negotiating verification procedures which include the use of both national technical means, and in some cases, on-site inspection. We are hopeful that these verification precedents will assist in solving the problem of banning all underground tests.

Another encouraging development relating to the verification problem is the wider participation by members of this Committee in the work of the Ad Hoc Group on seismological verification, which is analysing existing capabilities for teleseismic monitoring and the extent to which identification by national authorities of seismic events could be facilitated by an international exchange of seismic data under a CTBT. It is Canada's hope that the Group will continue to probe the possibilities for international co-operation in data acquisition, circulation and processing relevant to detecting and identifying seismic events under a CTBT.

On the problem of on-site inspection, we have also studied with particular interest the statements made by the Soviet Union relating to "a voluntary framework for taking decisions relating to on-site ascertaining of relevant circumstances". The distinction between a voluntary or an obligatory mechanism of on-site inspection in cases where serious doubts cannot be otherwise resolved is important, and requires careful study.

In this connexion, my delegation is attracted by the Swedish concept, in its latest revision of the draft treaty text tabled on 3 March, of a joint consultative committee. Such a concept merits further exploration as a useful mechanism in relation to the kinds of queries and "challenges" that might arise under a CTBT, and the process of sorting out and resolving doubts that should otherwise trigger on-site inspection. It is worth noting that such a consultative committee was considered a useful mechanism by the United States and the Soviet Union in their PNE Treaty. A somewhat similar role has been envisaged by the distinguished delegate for Japan for what he called a "verification committee". At the same time, we should emphasize that international consultation and co-operation through data exchange among parties to a CTBT could not obviate the need in the last analysis for individual national decisions regarding the interpretation of seismic data.

There is another new aspect of the Swedish draft text that is particularly interesting: the suggestion that an interim test ban between the two Super powers might be enshrined in a protocol of a multilateral CTBT. Such an arrangement could allow the United States and the Soviet Union to conclude such an arrangement without awaiting the participation of all nuclear-weapon States and yet, if necessary, link the duration of such an interim arrangement to the achievement of a CTBT. As well, the Swedish draft is so constructed as to place the maximum onus on all States to adhere to a CTBT as soon as possible.

On the thorny problem of peaceful nuclear explosions under a CTBT, my delegation has taken the position that such a treaty must ensure that any testing or any applica-

tion of nuclear explosions for peaceful purposes does not contribute to the refinement of existing nuclear weapons arsenals or to the acquisition of nuclear explosive capability by additional States. Unless and until some valid means can be devised for ensuring that there would be no significant nuclear weapons spin-off benefit from a PNE — and we are not aware of any such mechanism or even that it is possible in principle — we are increasingly inclined to the point of view expressed by the distinguished representative of Sweden that, under a CTBT, PNEs should in principle be included among the activities which are to be banned until some form of adequate international control and supervision can be arrived at.

CCD/PV.746 pp.17-18

Japan/Ogiso

21.4.77 PNE,CTB

In other words, under the present NPT régime, any single State other than the nuclear-weapon States is prohibited from receiving or manufacturing nuclear explosive devices, and hence cannot in practice carry out PNEs by itself. Therefore, if a non-nuclear-weapon State would be bestowed the right to carry out PNEs according to the CTB treaty under international supervision and control, this would contradict the related provisions of the NPT.

Incidentally, article III of the Soviet draft makes a distinction between nuclear and non-nuclear-weapon States as far as PNEs are concerned, and provides that a non-nuclear-weapon State cannot carry out PNEs.

My delegation appreciates the intention of the Swedish delegation to reduce the discrimination between nuclear and non-nuclear-weapon States with a view to possibly inducing States not party to the NPT — because of this discrimination — to become parties to the CTB treaty. However, article II will lead to inequality among non-nuclear-weapon States in that non-nuclear-weapon States parties to both NPT and CTB are banned from conducting PNEs, while non-nuclear-weapon States parties only to CTB are allowed to conduct PNEs under international supervision and control.

Therefore, in order to be compatible with the NPT, article II will have to be modified to the effect that PNEs should be conducted in accordance with article V of the NPT. At the same time, however, all nuclear-weapon States should refrain from conducting PNEs until appropriate procedures for international supervision and control have been established to ensure that nuclear weapons testing cannot be carried out in the name of PNEs.

Article II of the Swedish draft provides for a protocol establishing appropriate procedures for international supervision and control. Considering the fact that the technical difficulties involved in establishing such international control are immensely complex and time-consuming to overcome, it is feared that this type of provision may delay CTB negotiations. This is one of the most difficult problems which requires careful examination.

Article III

The two main subjects of this article, namely, exchange of international seismological data and verification procedures, might better be dealt with in two separate articles.

As to the exchange of seismological data, the details may be provided for in a protocol, but the basic principle should be included in the treaty itself. This principle should be not that each country is to make its own judgements on the data, but that the data should be automatically gathered at a few assessment centres for analysis and when the results at any centre indicate the possibility that a nuclear explosion has taken place, the case should be referred to the consultative committee. The above ought to be mentioned explicitly in the treaty text. Regarding data exchange, our expert, Dr.

Suehiro, proposed at the February meeting of the Ad Hoc Group of Seismic Experts, that data should be collected and disseminated automatically by way of using the most effective existing data exchange system, i.e. the WMO network.

If this proposal is generally agreed upon, the detailed procedure for exchanging data could be provided for in a protocol.

An article concerning verification should provide that the on-site inspection, as the essential means of verification, should not be carried out only through "verification by challenge", but should also be obligatory under certain procedures; for example, when a country under suspicion is obliged to present additional data in accordance with requests from the consultative committee and such additional data do not clear up the doubts, on-site inspection should then be decided upon by the consultative committee through majority vote.

The detailed procedure of such on-site inspection should be provided for in a protocol.

CCD/PV.747 pp.17-18 GDR/Herder 26.4.77 CW

Articles II and III of the United Kingdom draft convention cause us serious concern. My delegation does not share the opinions expressed here by some representatives that the obligations of the parties to the convention to supply information on their chemical weapons before the coming into force of the convention, as envisaged in article II, is acceptable. Such an arrangement would injure the principle of equal security. The consequence would be that a State possessing chemical weapons might give information on them without having the guarantee that other States would follow suit. The principle of equal security has to underlie any draft convention if it is to meet with the consent of all States.

As far as the verification of compliance with a ban on chemical weapons is concerned, we fully agree with the proposals contained in working paper CCD/403, and with the explanations given by Ambassador Likhatchev of the USSR on 29 March 1977.

We are against the establishment of an international control organ with far-reaching control powers. Such an organ would legitimize interference in the internal affairs of other States and lead to the discovery of military and commercial secrets.

In our view, a balanced combination of national means of control and of international procedures fully ensures the verification of compliance with a treaty prohibiting chemical weapons.

My delegation is opposed to involving this Committee in endless discussions on technical details of a treaty on the prohibition of chemical weapons. The deliberations held so far have largely identified the technical problems and led to a rapprochement on some questions. There could be endless debates about those technical details. But this cannot be the purpose of our further discussion on the prohibition of chemical weapons. We should not permit this to divert us from a political decision which has become urgent now.

CCD/PV.748 pp.21-23 Netherlands/van der Klaauw 28.4.77 CW

Today, I would like to introduce working paper CCD/533 which I hope will contribute to the solution of one of the many verification problems with respect to a CW-ban. Our working paper deals with the verification of the presence of nerve agents, their decomposition products or starting materials downstream of chemical production plants.

Before describing the technical contents of it in some detail I would like to recall

what the Netherlands State Secretary, Dr. Kooijmans, said some weeks ago in this Committee:

"I think that we all agree that the verification of a ban on the development, production, and stockpiling of chemical weapons is very difficult. The need for international verification is bound up with the risks for national security should the ban be evaded. The degree of verification asked for depends on, inter alia, national perceptions of the CW-threat (including the different dangers which different agents present), the practicability of international verification procedures, the possibilities of collecting relevant information by other means (which mainly depends on the amount of openness of a society), mutual trust and other factors. For example, I could imagine that countries would like to see an effective international verification system with respect to the production of single-purpose highly toxic nerve agents but would be more relaxed with respect to militarily less effective agents, which would be difficult to verify in any case since they are used in great quantities in the civilian chemical industry" (CCD/PV.741, p.19).

I would like to dwell upon this last aspect a bit more. The military threat of the highly toxic single-purpose agents seems to be considerably higher than the threat of other chemical weapons, including the dual-purpose agents. The most important class of such highly toxic single-purpose agents are formed by the nerve agents. Apart from very small quantities used in medicine, these compounds do not, in our view, have legitimate use. One could therefore argue that international verification measures with respect to the production of chemical warfare agents would be concentrated on the possible illegal production of nerve agents and comparable chemicals, including precursors for binary weapon systems.

Just saying this does not mean we wish to exclude national and international verification procedures with respect to other CW-agents, but these questions are not dealt with here. I noted that the United States representative recently also concentrated his attention on the single-purpose highly toxic agents, in particular the nerve agents.

In developing verification methods we must try to make them potentially acceptable for all States. This means, inter alia, that we must try to develop methods which are non-intrusive in character.

One of the possible methods to tackle the problem of verification of a ban on the production of nerve agents was described by the Netherlands expert, Dr. Ooms, during our last informal meetings on CW. Dr. Ooms is the Director of the Chemical Laboratory of the Netherlands Defence Research Establishment. This laboratory is mainly engaged in developing protection measures against chemical warfare and in a number of purely civilian projects. In this laboratory, a research group worked several years on a method of detecting very minor quantities of nerve agents, their decomposition products or starting materials in waste water. This highly sensitive method is based on an analysis of waste water downstream of chemical production plants. As the possible presence of the compounds at issue may also be due to the natural or industrial background, a reference sample upstream of the chemical production plant should be analyzed in addition to a downstream sample. The first stage of this research project has now been concluded and the results are described in working paper CCD/533, just circulated.

The advantages of the system are obvious. The method is not intrusive. It gives a simple 'yes' or 'no' answer to the question whether a suspected plant could be engaged in nerve agent production. Although more research in this field has to be done, certain precursors of binary weapons could be caught also. The chemical analyses of the waste water can be performed by many laboratories in the world.

We would be interested to hear from other Governments whether they could achieve

comparable results with the method described. In the meantime our research in this field will continue.

Of course, my Government does not claim that the described method solves all verification problems with respect to the illegal production of nerve agents. However, it seems to us a valuable tool which, together with other verification methods, could create sufficient confidence that parties are living up to their obligations under a CW-ban.

CCD/PV.748 p.27

USSR/Likhatchev

28.4.77

CW

At this session of the CCD, the consideration of the question of the prohibition of the development, production and stockpiling of chemical weapons and the destruction of stockpiles of such weapons has been continued. Regrettably, there are certain difficulties in the way of the solution of this problem, first of all with regard to the question of control. As is known, the draft convention put forward by the socialist States in 1972 proposes a system of control based on national means of verification in combination with certain international procedures. In the opinion of the Soviet Union, such control is a sufficient guarantee of compliance with the agreement by all its parties. In this respect there is a positive precedent established by the Convention on the Prohibition of Bacteriological Weapons.

The Soviet delegation has noted that considerable interest has been displayed in the CCD regarding the provision concerning the USSR's readiness to discuss methods of verification of the destruction of CW stockpiles to be excluded from the arsenals of States, as contained in the Soviet Union's Memorandum on questions of ending the arms race and of disarmament and also in the statement by the Soviet delegation. In statements and in a number of documents circulated in the Committee, various aspects of the problem connected with the destruction of declared stocks of chemical weapons have been touched upon. The main attention has been paid to the verification of the type and the quantity of agents destroyed. In our judgement, this would be insufficient. The purpose of control over the destruction of declared stocks of chemical weapons should, the Soviet Union believes, be to determine the fact of destruction of an agent of a certain type, the quantity of the agent being destroyed and, not least, the quality of this agent, that is, the content of the main substance. With such an approach, verification of the destruction of declared stocks of chemical weapons will be most efficient; and this will undoubtedly strengthen also the effectiveness of the agreement on the prohibition of chemical weapons itself.

CCD/PV.750 pp.14, 15-16

USSR/Likhatchev

5.7.77

CTB,CW

For a long time, the opponents of the complete prohibition of nuclear weapon tests have been referring to the difficulty of solving the question of control. As before, the Soviet Union is convinced — and the arguments of specialists substantiate this view — that national means of detection are quite sufficient for control. Nevertheless, in order to clear the way for an agreement, the USSR has made a major step forward to meet the views of the Western Powers. The draft treaty on the complete and general prohibition of nuclear weapon tests now provides for the possibility, on a voluntary basis, of an on-site inspection if any doubts arise regarding one or another country's compliance with obligations deriving from the treaty. This is a reasonable compromise that takes into account the positions of all parties. We note with satisfaction that the readiness of the Soviet Union to take part in the search for a mutually acceptable agreement on

questions of control has met with a wide positive response on the part of the members of the Committee on Disarmament, particularly the delegations of the United States of America, the United Kingdom, Japan, Italy, Canada, Sweden, Iran and other countries.

Soviet scientists are actively participating in the work of the Ad hoc Group of Scientific Experts set up within the framework of the Committee on Disarmament to consider international co-operative measures to detect and to identify seismic events.

In the course of the spring session the Committee held meetings, with the participation of experts, on the problem of banning chemical weapons. These discussions resulted in a broader understanding of practical approaches to the solution of the problem. At the spring session the Soviet delegation set out its position on certain matters of control over the prohibition and elimination of chemical weapons. It declared, in particular, the willingness of the Soviet Union to consider the possibility of additional control procedures, and, among other things, to discuss techniques of verifying the destruction of the stockpiles of chemical weapons to be excluded from the arsenals of States. Some other delegations also expressed considerations on individual aspects of the problem which are worthy of attention and examination.

It was the desire to get the talks moving that motivated the USSR's agreement to consider, together with the United States of America, the question of a joint initiative in the Committee on Disarmament for the conclusion, as a first step, of an international convention concerning the most dangerous, lethal chemical means of warfare. During the previous session of the Committee and soon after its conclusion, bilateral Soviet-United States consultations were held in Geneva with a view to giving further consideration to matters pertaining to a possible joint initiative in the Committee on Disarmament for the conclusion of an international convention concerning the most dangerous, lethal chemical means of warfare as a first step towards the complete and effective prohibition of chemical weapons. Furthermore, discussions were held on the question of banning other highly toxic chemical means of warfare. The talks took place in accordance with the understanding reached between the USSR and the United States of America on the basis of the communiqué of 3 July 1974 on the summit meeting, and they constituted a continuation of the consultations held in Geneva in August 1976. Consideration was given to questions -- in particular, questions of a technical nature -- concerning the determination of the scope of the prohibition and concerning control measures under a possible agreement on chemical weapons.

The discussion of these and certain other questions provided a useful basis for the further consideration of the joint initiative. Both sides agreed to continue their work with a view to preparing the text of an appropriate document and thus to achieve practical implementation of this joint initiative.

The sides agreed to meet in the near future to continue the consideration of all the matters discussed in connexion with this problem.

CCD/PV.750 pp.21-24

Sweden/Thorsson

5.7.77 PNE,CTB

....I also wish to make clear that such projects should not be carried out if no satisfactory procedures can be devised in order to ensure that the execution of PNE projects does not yield any information of real significance for nuclear weapons maintenance and development either for nuclear or for non-nuclear-weapon States.

For the sake of clarity I wish to confirm that when drafting article II we of course have had only PNEs carried out underground in mind. We would be quite prepared to restrict article II explicitly to such explosions. Any exception in the context of a CTB should thus exclusively relate to underground explosions. We also take it for granted

that in such an eventuality, the PNEs would be carried out under special arrangements by a nuclear-weapon State.

In our opinion, there is no particular urgency in terminating negotiations on the details of procedures concerning possible exceptions for PNEs to be included in a Protocol II annexed to the treaty. If considered necessary for legal and other reasons, the text of article II could be modified in order to make it clear that a total prohibition against all nuclear tests would be in force as long as no special procedures relating to PNEs have been agreed upon.

With regard to article III, let me first say that the verification procedures we have in mind only relate to underground events. This has been spelled out in paragraph 2 dealing with the proposed international exchange of seismological data. We would of course have no problems in clarifying this point also in other paragraphs of article III.

The main part of a verification system under a CTB should consist of an effective international exchange of seismological data from a global network of seismological stations. Such a system would have essentially two functions -- i.e. to deter a potential violator and to counteract unfounded suspicions.

The final assessment of all data relevant to the monitoring of a CTB should be made by the individual States parties to the treaty. The international seismic data exchange system would facilitate such national assessment by providing adequate data from the proposed global network of seismological stations. The services of one or several data centres would be needed to facilitate, especially for smaller countries, the interpretation of the great amount of seismic data that will flow from such a network.

It is obvious that the implementation of the proposed formula on verification by challenge must be a matter for further negotiations. We do not exclude that, as a result of such negotiations, the treaty provisions in question will be formulated in more precise terms than has been done in the Swedish draft.

For a number of years the methods for seismological identification, if properly employed, have in our view been efficient enough to catch explosions in order to provide an effective deterrent against cheating and to avoid nearly all false alarms about earthquakes. Together these capabilities make it possible to establish a politically adequate monitoring system without recourse to obligatory on-site inspections.

At the same time, on-site inspections could be useful in cases where the signatures of earthquakes appear as extremely explosion-like. Such cases would be rather rare but nevertheless politically quite important. The inquiring party would be interested to find a way to avoid making unfounded accusations and the "host" party would feel a need to free itself from the prospect of becoming the target of unfounded accusations. For these purposes it would be sufficient to have a provision in the treaty for inspections by invitation.

The modalities of such inspections would of course determine their usefulness. One obvious conclusion is that these modalities should be directed more towards the inspection of earthquakes than at the inspection of explosions.

In this connexion, it would be of great value if, in the course of the negotiations which we presume will start soon, we could receive clarification as to the interesting statement in the memorandum of the Soviet Union last autumn indicating a willingness to discuss methods of ascertaining on-site the relevant circumstances of a seismic event in addition to relying on international co-operation based on national means of verification. Also it would be of value to hear an elaboration in clear terms of what is meant by "adequate verification", an expression which has often been used on the United States side.

I now come to the consultative committee proposed in article III, paragraph 4.

First, it has occurred to us after hearing comments by delegations that there might be a merit in making the mandate of the consultative committee broad enough to cover

all questions relevant to the functioning and implementation of the treaty. Therefore, it might be more appropriate to insert a new article in the draft. That article could consist of two paragraphs. I have in mind first paragraph 1 of the former article III, which reads: "Each Party to this Treaty undertakes to co-operate in good faith to ensure the full observance and implementation of this Treaty". Then a paragraph 2 would follow, which would be a reproduction of the text of paragraph 4 of the former article III dealing with the consultative committee. The rest of the paragraphs of that article, as well as the following articles of the draft treaty, would then be renumbered accordingly. A revised version of our working paper (CCD/526) containing the text of the draft treaty in its new form will be issued shortly by the Secretariat.

As to the mandate of the consultative committee, my delegation plans to initiate informal consultations with interested delegations in the coming days with the aim of putting forward a concrete proposal in the course of the summer session.

In our preliminary thinking, we have in mind an advisory body which would be the main instrument of the parties for consultations in all matters relating to the functioning and implementation of the treaty. The main purpose of the work of the committee should be to inspire confidence in the effectiveness of the treaty and to increase its viability. It would therefore seem natural if the committee would meet with some periodicity.

The committee should consider questions concerning compliance with the obligations assumed under the treaty. It should also consider proposals for further increasing the viability of the treaty, including the preparation of the review conference foreseen in article VI of the draft treaty.

Finally, we expect that the committee would be given a consultative function also with respect to the possible desirability of the carrying out of PNEs.

In our opinion the committee would be open to all parties to the treaty. The depositary, i.e. the Secretary-General of the United Nations, or his representative would be the chairman. It would also seem appropriate that the secretary is an official of the United Nations secretariat. The committee should be convened by the depositary either on his own initiative or on the request of a party to the treaty.

Decisions of the committee should, it seems to us, be taken on a consensus basis. At the same time a procedure should be found to enable all points of view to be properly recorded in the reports of the committee which should be distributed to the parties of the treaty after each meeting.

Satisfactory arrangements must be worked out for ensuring a close liaison between the work of the committee and the international system for exchange of seismological data to be set up. Provisions in this respect should be included in the proposed protocol concerning arrangements for technical supervision of the compliance with the treaty. The principle, embodied in the Swedish draft, concerning the right to receive information as a result of inquiries on events pertaining to the subject matter of the treaty, should be laid down in the proposed protocol on the functions and rules of procedures of the committee. The question whether the committee should have a role with regard to possible on-site inspections should be left for further negotiations.

CCD/PV.752

pp.8-10

UK/Ashe

12.7.77

CW

Many delegations have stressed the importance of including binary weapons in any CW convention. We fully agree. As I explained in my statement on 31 March, we believe that article Ib. of our draft covers such weapons and this point could be emphasized in any protocol. The detailed definitions in the supplementary protocol to article I might also be expanded to cover the chemical precursors required for binary munitions. My

delegation would find no problem with any formula which might be developed to cover binary munitions more clearly than the present draft.

Many Governments have given careful thought to the scope of a CW convention. The Federal Republic of Germany has, for example, pointed out that it is not just the toxicity of chemicals which should be considered when deciding which are to be regarded as chemical warfare agents and which should therefore be banned. Other characteristics, such as their shelf life and volatility, must also be taken into account. The use of such criteria may substantially reduce the overlap between chemical weapons and chemicals used for purely peaceful civil purposes. Such criteria could also perhaps be incorporated in a protocol to article I of the draft convention. The Japanese delegation has shown us the form that such a protocol could take.

Some countries have questioned the legal basis of the confidence-building measures which we incorporated in our draft convention, pointing out that they would take place on signature rather than ratification. While we do not share these legalistic doubts, we would be quite happy to see confidence-building measures brought into play in another way. They could, for example, be part of a protocol which could come into force before the rest of the convention, or the convention itself could be phased, provided that States could be released from their obligations if sufficient confidence were not established. We consider that it is the essence of the confidence-building measures which is important, not the way that they are expressed in legal terms, and we would be happy to examine any other measures which Governments feel might build the confidence necessary to allow chemical disarmament to proceed.

Verification is the most sensitive aspect of any disarmament or arms control agreement because it directly touches on both the sovereignty and the security of States. Nevertheless, we hope to persuade those who have expressed fears about the verification measures incorporated in the United Kingdom draft that their concerns are unjustified. For example, some have suggested that commercial secrets might be given away if the provisions of the convention are enforced. This is an understandable concern, but we remember that similar fears were expressed about the effects of inspection of nuclear power stations under the safeguards system of the International Atomic Energy Agency. These fears have not proved justified and many States, including the United Kingdom, have submitted their civil nuclear programmes to IAEA safeguards.

Some countries have suggested that, because of the great number of chemical plants in industrialized countries, any attempts to monitor their activities in order to ensure that they are not used to produce chemical weapons would be futile. Because of these practical difficulties it may be best, as the Netherlands delegation has suggested, if reporting and inspection in such countries were confined to those factories which produce chemicals closely analogous to the most toxic nerve agents. On the whole, factories in the industrialized States which produce less toxic chemicals would not be inspected, although random checks should be permitted to alleviate suspicions.

One final point on this aspect. We believe that the banning of CW is so important that commercial considerations should not be allowed to prevent progress. Both the Soviet memorandum on disarmament submitted to the United Nations last year and the recent Sri Lankan communication to the United Nations on the special session on disarmament stressed the urgency of dealing with this problem.

Another aspect of verification which causes concern to some States is that our proposals might lead to the disclosure of military secrets. In drawing up the draft we were very concerned to avoid giving the consultative committee any control over the weapons and armed forces which States maintain and which are not relevant to this convention. Our aim was to allow for verification of the process by which chemical weapons were destroyed so that all States could be convinced that this had been carried out, and for inspection of defunct CW plants and of certain civil chemical factories to

ensure that no new weapons had been created. Our position is therefore analogous to that of the Soviet Union when it told the United Nations General Assembly in September 1959 that it was opposed "to the idea of divorcing the control system from the disarmament measures" and that it was "in favour of genuine disarmament under control, but against control without disarmament". The United Kingdom similarly believes that, as far as chemical weapons are concerned, control and disarmament should go hand in hand and that no international control should be exercised over States' armed forces.

There have been some suggestions that a CW convention could be verified by satellite. The United Kingdom has given careful consideration to this point, and has tabled working papers at this Committee on the technical problems involved. In one such paper tabled in 1972 (CCD/371), we concluded that "limited detection by satellite sensors of chemical field tests of known agents in known areas is technically feasible", but we also cautioned against the view that satellites might do any more than this or that they would provide adequate detection of field tests, let alone of the production of chemical weapons or the destruction of chemical stocks. There is also a problem of cost and availability. Satellites would be extremely expensive and they are currently available to only a few States. In contrast, the reassurance which would be provided by more detailed inspection could be available to all.

Some believe that national control committees monitoring statistics on the chemicals produced by civil factories would, by themselves, be sufficient to ensure that a CW convention was observed. As the Sri Lankan communication submitted to the United Nations in May 1977 pointed out, in verifying disarmament agreements "a combination of several methods should be employed, mutually reinforcing one another in order to achieve the necessary assurances that a certain measure is being observed by all parties to such agreements". National means of verification can play their part, but by themselves they are insufficient.

Several countries have suggested that factories which formerly produced CW should be dismantled or converted, rather than simply closed down, as the United Kingdom draft requires. In principle, we believe that the more far-reaching the measures taken the better, and we hope that all States will find these suggestions acceptable.

With a phased convention of the sort envisaged in the United Kingdom draft, the timing of the various phases is of crucial importance. Several countries have pointed to the need to ensure that stockpiles of chemical agents would be destroyed as soon as possible after the ratification of the convention. The Japanese delegation has suggested that five years might be a suitable period. In part this is a problem for technical experts who alone can show how quickly chemical weapons can safely be destroyed. We hope that further discussions will lead to agreement on the techniques involved and on the time which should be allowed for this process to take place.

CCD/PV.755

pp.8-9

Bulgaria/Nikolov

21.7.77

CTB

The main difficulties encountered in the past in negotiations on the complete and general prohibition of nuclear weapons tests related to control. Today, no one disputes the fact that, as a result of progress in science and technology, compliance with a treaty prohibiting all nuclear weapons tests can be verified from a distance without the need for on-site inspections. The use of national technical means of control, supplemented by international co-operation in the exchange of seismic data, is sufficient to ensure adequate verification of compliance with the prohibition. Nevertheless, to facilitate an international agreement on this question, the USSR has declared its readiness to consider the possibility of on-site inspections on the basis of the principle of free consent, under the conditions indicated in its draft treaty on the complete and general

prohibition of nuclear weapons tests. Consequently, control is no longer the real obstacle to an agreement. It is quite obvious that the total cessation of nuclear weapons tests is not possible without the co-operation of all the nuclear Powers.

It goes without saying that underground nuclear explosions for peaceful purposes cannot be prohibited, because they are provided for in the Treaty on the Non-Proliferation of Nuclear Weapons. These explosions should be carried out in accordance with the provisions of article V of the Non-Proliferation Treaty. We believe that the Soviet draft treaty provides the basis for an agreement on the complete and general prohibition of nuclear weapon tests.

CCD/PV.758 p.11

Poland/Wyzner

2.8.77

CTB

My delegation trusts that, while seemingly intractable, those difficult and involved problems will eventually be sorted out in the not-too-distant future, including the problem of verification which so far has been defying all attempts at solution. We believe that an important premise for early progress in that area is an equal measure of flexibility which must be displayed on all sides.

As is well known, the Union of the Soviet Socialist Republics and other socialist countries have been consistently urging a system of verification of compliance with the treaty based on national technical means of control. It is now considered that the scope and effectiveness of such a system can be further enhanced by the co-operation of States Parties in an international exchange of seismic data. My delegation trusts that in this regard the current session of the Ad Hoc Group of Scientific Experts, who are deliberating on international co-operative measures to detect and identify seismic events, will succeed in the elaboration of a broadly acceptable draft proposal.

A major step to meet half way the long standing insistence on a verification formula that would provide for on-site inspection has been made by the USSR in the Memorandum submitted to the thirty-first session of the United Nations General Assembly. More recently it was renewed in the draft treaty on the complete and general prohibition of nuclear weapon tests, which the Soviet delegation tabled in this Committee earlier this year.

The Polish delegation believes that the Soviet document will receive careful consideration in the tripartite consultations. We also trust that, at a later stage, it will constitute a basis of a multilateral agreement on the cessation of all nuclear weapons tests which must crown the many years of the CCD's endeavours in that regard.

CCD/PV.758 pp.17-18

Iran/Fartash

2.8.77

CTB

We approach next the formidable verification problem. The Swedish draft treaty contains an elaborate sequence of procedures to prevent or, if necessary, detect violation of the treaty. We see incorporated in these proposals many ideas expressed during recent arms-limitation discussions and they seem to provide equal opportunities for all parties to exercise their rights in verifying the agreement. We appreciate especially the emphasis in the Swedish draft on the international exchange of seismic data as the basic element of the verification system. By far the greatest weight is given to seismological identification of underground events. We would concur that these techniques together with other technical methods which exist today can give quite good assurance of the observance of the treaty.

For further questions concerning compliance, the verification plan must facilitate co-operation and consultation among States party to the treaty and this seems to be

provided for in the Swedish text.

We have noted with special interest the provision for on-site inspection in the Swedish draft as well as in the draft treaty submitted by the Soviet Union. Long the rigid barrier to test-ban progress, the option of conducting an inspection under certain conditions in case of serious doubts has perhaps become negotiable. This is certainly a welcome development. All the more so as the value of such inspections has increasingly come under question and their purpose would be primarily confidence-building.

For the moment it is difficult to gauge how close we may be to agreement on this highly controversial aspect of verification. We look forward to further details concerning the amendment of the Soviet draft. The modalities of the Swedish proposal for verification by challenge as we understand it are open to negotiation, including the role which the consultative committee might assume in regard to on-site inspections. Moreover, many members of our Committee have not yet commented on the question of on-site inspections during this year's sessions. Thus we can only hope that the concepts behind these proposals are not too divergent and that we may be approaching a convergence of views on this issue.

After the PNE and the verification problems, we must still deal with the question of participation in a CTB treaty and we see in article X of the amended Swedish draft a new attempt to meet this issue. It will not be possible to await adherence by all the nuclear Powers before entry into force of the treaty. With such a stipulation none of the arms-limitation agreements would have been in force today. And yet the universality of a comprehensive test ban is equally of utmost importance.

The Swedish solution would permit both the entry into force of the treaty and the recognition of the need for universal adherence. We will, however, have to consider whether this is a realistic compromise. What number of years could be established for article X? And would it not be risky to give each nuclear State the power to undermine the treaty merely by withholding adherence? Moreover each party, nuclear and non-nuclear, would have the right to withdraw after a given period unless all the nuclear Powers had adhered. This would seem to give the treaty a very uncertain foundation. We do, however, greatly value the effort made by the Swedish delegation to seek a compromise on the issue of adherence before it becomes an intractable problem.

While these questions are under negotiation we note with satisfaction the third progress report of the Ad Hoc Group of Seismic Experts. It is evident that a viable test ban treaty will need the solid technical base which international co-operation in the detection and identification of seismic events can provide. The forthcoming meeting of this Ad Hoc Group will hopefully result in further progress towards the Group's goals.

CCD/PV.758

pp.24-27

Netherlands/van der Klaauw

2.8.77

CW

In the United Kingdom draft treaty, an original suggestion is made to the effect that States -- as a confidence-building measure -- would give a declaration on types and quantities of chemical weapons in their possession. We consider such kind of declarations as a useful element for any viable CW treaty. I have some understanding for the view, as expressed by the delegation of the German Democratic Republic among others, that it would be somewhat unrealistic to expect States to divulge all information on their CW stocks as long as they are not certain that the treaty will enter into force. On the other hand, it would be very helpful during the negotiation and ratification process to have sufficient confidence in the future implementation of the treaty. I could imagine therefore that in the treaty an obligation would be included to declare all stocks as soon as a State becomes a party, but that in the meantime States would give unilateral declarations in which as much information as possible would be provided. Such

declarations -- which could possibly be given in several stages -- are also important to make a planning of the destruction programme.

In this connexion I am allowed to declare here that the Netherlands armed forces do not possess lethal chemical weapons and incapacitants. Small amounts of irritants are available for riot control and for defensive protective training purposes. To study protection measures against chemical attack, very small quantities of some chemical warfare agents are used in a Government laboratory.

I come now to the difficult question of verifying a CW treaty. As an introduction I want to repeat again what the Netherlands State Secretary, Dr. Kooijmans, said in the spring session:

"I think that we all agree that the verification of a ban on the development, production and stockpiling of chemical weapons is very difficult. The need for international verification is bound up with the risks for national security should the ban be evaded. The degree of verification asked for depends on, inter alia, national perceptions of the CW threat (including the different dangers which different agents present), the practicability of international verification procedures, the possibilities of collecting relevant information by other means (which mainly depend on the amount of openness of a society), mutual trust and other factors. For example, I could imagine that countries would like to see an effective international verification system with respect to the production of single-purpose highly toxic nerve agents, but would be more relaxed with respect to militarily less effective agents, which would be difficult to verify in any case, since they are used in great quantities in the civilian chemical industry" (CCD/PV.741, p.19).

It is in this light that I would like to offer some considerations on the verification issue. Activities with respect to chemical warfare can be split up into the following issues:

1. The development of new chemical weapons;
2. The production of single-purpose and dual-purpose chemical agents and of their munitions;
3. The stockpiling of chemical weapons;
4. Other activities like offensive training for chemical warfare.

Certain of the above-mentioned activities would be very difficult or impossible to verify internationally. For example, it seems practically impossible to establish the amounts of stockpiled chemical weapons. Verification of the development of new chemical weapons would also be a very difficult task, although the scanning of scientific literature could be of some help. Certain possibilities exist perhaps to verify some offensive chemical training activities, the presence of chemical munitions and perhaps munition-filling plants, etc.

We consider the verification of the destruction of existing stockpiles of CW as a very important confidence-building measure. Destruction of stockpiles is a real disarmament activity which can be internationally verified without too many problems. Interesting working papers have been introduced on this subject, and it seems that possibilities exist now for general acceptance of international verification measures. I may refer, for example, to the Soviet memorandum on disarmament (CCD/522).

We must be aware, however, that verification of the destruction of existing stockpiles is not sufficient. It would be somewhat illogical, in our opinion, to effectively verify the destruction of old mustard gas while at the same time no international verification would be possible with respect to the production of, say, highly lethal nerve agents. Verifying that no production of CW takes place seems to be the most difficult subject to solve. Let us consider this question in some more detail.

In principle, verification of the production of single-purpose agents seems to be easier than verifying the production of dual-purpose agents. Under a CW treaty, the production of single-purpose agents would normally be prohibited completely and the detection therefore of very small amounts of such agents would be an indication of a violation of the treaty. In this connexion I would like to refer to our working paper introduced on 28 April this year (CCD/533). With respect to dual agents we encounter a very difficult problem, since large amounts of these materials are often present in the chemical industry.

However, realizing this, we should not forget that the military threat of the highly toxic single-purpose agents is considerably higher than the threat of other chemical weapons, including most of the dual-purpose agents. The most important class of such highly toxic single-purpose agents is formed by the nerve-agents. One could therefore argue that international verification measures with respect to the production of chemical warfare agents would be concentrated on the possible illegal production of nerve-agents and comparable chemicals, including precursors for binary weapon systems. This would not exclude national and international verification procedures with respect to other CW agents, but these could be less stringent.

We must try to develop verification methods which, on the one hand, give us adequate assurance that the treaty provisions are faithfully observed and, on the other hand, can be considered as reasonably acceptable for most States. This means, inter alia, that we must try to develop and use methods which are as non-intrusive as possible to do the job. Although I recognize that national means of verification can play a certain role in the context of a CW treaty, I am strongly convinced that they are not sufficient. Without an international leg in the system it becomes self-control, contrary to the general goal of our deliberations: general and complete disarmament under strict and effective international control. In this respect I may refer to the nuclear non-proliferation issue where agreement was reached on an adequate form of international control.

Going back to the CW production problem, in our view a useful element in a CW treaty would be also that countries would declare which facilities for the production of chemical warfare agents and munitions they possess. It would not be very intrusive to verify that declared production plants are dismantled. The United States offered ideas to verify with cameras, seals and comparable non-intrusive methods that declared production plants would have stopped production without being actually dismantled. In such ways the verification of the fact that declared plants stopped production does not seem to present insurmountable problems. Such verification would be an important confidence building measure.

There remains the problem, however, of undeclared plants, either already existing, or newly built ones. In our opinion the verification system must be good enough to deter the production of the most dangerous CW agents. The problem of the undeclared facilities is one of the most difficult, probably only surpassed by the problem of how to verify the presence and the amounts of existing stocks. We still need a thorough discussion on this subject. For example, the method of economic monitoring of certain products in the chemical industry has been suggested. However, we do not think that in a country which has a large chemical industry on its territory such a method would work.

I already referred to the recent Netherlands working paper, as our contribution to solve a part of this problem. In this paper a sensitive and non-intrusive method is described to analyse waste water for detecting the presence of traces of nerve-agents, their decomposition products or starting materials.

Further discussions are necessary in order to establish how and when to take samples of waste water near suspected plants. However, we are convinced that, with

this method and several others, possibilities exist for adequate deterrence of illegal nerve-agents production, provided that States are willing to accept a certain amount of rather non-intrusive on-site verification. This is, in our opinion, a small price to be paid for a viable treaty which strengthens international security.

CCD/PV.759 pp.10-13

USSR/Likhatchev

4.8.77

CW

Without touching at present on other aspects of the problem we would like to focus our attention on the question of monitoring compliance with the convention and to state practical considerations concerning some of its aspects.

Speaking of control in general, we believe it is necessary, when carrying it out, that conditions should be ensured in which control would not infringe upon the sovereign rights of the States Parties to the international convention and would not lead to the disclosure of State and military secrets. Clearly, such requirements, which are fundamental for all countries, could be satisfied by control based on national means of verification combined with some international procedures. At the same time such control would represent a sufficient guarantee of compliance with the corresponding convention by all its Parties. At the present level of development of science and technology, the possibilities inherent in national means of control are enormous and, if they are used to the full extent, these means are sufficient to ensure the certainty that other Parties to the agreement are complying with it. A considerable number of convincing arguments and proofs have been cited in this Committee, in particular, by experts of socialist and other countries who have taken part in the work of the Committee at its sessions for the last two years.

At the same time, in order to meet the wishes of a number of countries, and seeking a speedy achievement of agreement, the Soviet Union has stated its readiness to examine the possibility of using additional supervision procedures, and, in particular, "to discuss methods of verifying the destruction of stockpiles of chemical weapons which are to be excluded from the arsenals of States". This idea is contained in the USSR Memorandum on questions of ending the arms race and of disarmament, as well as in statements by the Soviet delegation at the spring session of the Committee this year.

Expanding on those provisions, the Soviet delegation is presenting today for the consideration of the Committee two working papers on the above-mentioned aspects of the question of control.

The first of the two documents, which is entitled "Some methods of monitoring compliance with an agreement on the prohibition of chemical weapons" is aimed at revealing the potential possibilities of national means of control, and in particular of extraterritorial monitoring in which verification is carried out from outside the territory of the State being monitored. Such control may be used to verify the different aspects of the prohibition of chemical weapons: development, production, stockpiling and the destruction of CW stocks. Extraterritorial monitoring may be carried out basically by remote and indirect methods.

Remote methods for use in both intraterritorial and extraterritorial monitoring must be based mainly on instrumentation. In principle it is possible to develop remote methods for use in the following two cases:

- (1) Where the sample for monitoring is delivered "naturally" in a current of air or water (by the wind or a water course), thus making it possible to use any laboratory methods thereafter;
- (2) Where the analysis is based on remote appraisal of some optical (spectral) characteristics of the monitored sample which may now be performed with the aid of artificial earth satellites.

In the first case, the feasibility of monitoring depends to a great degree on natural conditions and phenomena. In the second case — that of remote appraisal by artificial earth satellite — the results of monitoring will be more reliable. Hence, this method is of special interest in organizing remote extraterritorial monitoring. It has already been discussed in the Committee on Disarmament; in particular, working paper CCD/371 submitted by the United Kingdom examined the feasibility of remote detection of field tests of chemical weapons. It may be noted here that the photo-conductive detector referred to in working paper CCD/371 may at the present level of science and technology be replaced by far more sophisticated detectors and systems which can ensure considerably greater sensitivity.

It follows from the information contained in the USSR working paper that, by improving technical means for the remote detection of chemical agents and using a system of artificial earth satellites, it will be possible to increase the effectiveness of the method considerably, to record with a high degree of reliability the presence in the atmosphere of very low concentrations of chemical agents and consequently to detect the production of chemical weapons and field tests of such weapons.

Our paper also examines the great possibilities provided by indirect methods of monitoring (through analysis of statistics and information material) practically all kinds of activities connected with chemical weapons. The paper reaches the well-founded conclusion that the combination of remote and indirect methods of monitoring ensures, to a sufficient degree, extraterritorial control by national means.

Our second working paper which is entitled "Verification of the destruction of declared stocks of chemical weapons" contains some considerations by the Soviet side concerning one of the methods of monitoring the destruction of declared stocks of chemical weapons. It is noted in the document that the main purpose of monitoring the destruction of declared stocks of chemical weapons should be to establish (a) the fact of the destruction of an agent of a certain type, (b) the quantity of the agent destroyed and (c) the quality of this agent, and to produce appropriately documented results of the verification. The paper explains the importance of determining not only the type and quantity of the agents being destroyed but also their quality — i.e., the content, in per cent, of the basic substance in the agent being destroyed. The use of such an additional method would contribute to more effective monitoring of the destruction of declared stocks of chemical weapons.

In elaborating methods of verifying the destruction of declared stocks of chemical weapons, we proceeded from the premise that those stocks will be declared in terms of quantity by weight of the basic substance. It seems to us that such an approach will make it possible to propose a method of assessing whether an agent has been fully destroyed. This method is based on the registration of quantities of chemical agents destroyed by incineration or detoxication, and on a determination of whether the stocks which have been declared to be destroyed correspond to the volume of stocks which have actually been destroyed. Besides, this approach to the methodology of verifying the destruction of stocks of chemical weapons will make it possible to assess objectively the comparability of the quantities of chemical agents which are destroyed by different States.

Thus, the working paper "Verification of the destruction of declared stocks of chemical weapons" is a concrete expression of the readiness of the Soviet Union to discuss methods for the said verification.

CCD/PV.760 pp.10-11

Canada/Jay

9.8.77

CTB

Canada's determined opposition to all nuclear testing is well known, but cannot be stated too often. We have always recognized that verification was among the principal difficulties obstructing the achievement of a CTB. Happily there has been encouraging progress in that regard in recent years. The United States and the USSR have successfully negotiated the Threshold Test Ban Treaty and the related Agreement on peaceful nuclear explosions. The Group of Experts on seismological verification set up under the auspices of the CCD promises soon to present a report that may be of some assistance in solving some of the problems on our way to a CTB. The modification in the Soviet Union's traditional position on verification in the memorandum of Mr. Gromyko presented to the thirty-first session of the General Assembly, and which has since been reflected in the update Soviet draft CTBT, augurs well for the required compromise on this difficult question. Meanwhile, the problem of verification, especially as regards on-site inspection, can be further eased, in the view of my delegation, if the concept of the joint consultative committee advanced in the Swedish draft treaty can be accepted.

Another issue, central to the difficulties experienced in arriving at a comprehensive test ban, is the continuing grave concern that relates to the use of nuclear explosions for so-called peaceful purposes. Unless and until some effective means can be devised to make absolutely sure that there would be no weapons-related benefits from PNEs, no such explosions should be contemplated under a CTB treaty. That, too, is a very valid feature of the Swedish draft treaty.

CCD/PV.760 p.16

Italy/di Bernardo

9.8.77

CTB

No other question in the field of disarmament has been so carefully studied and debated as the question of a comprehensive test ban. The position of my Government on this high priority topic has been set out at length in this Committee. We believe that a large part of the technical and scientific aspects of the problem has been sufficiently explored. The Ad Hoc Seismic Group, in which Italian experts have taken an active part, has done good work and is approaching its conclusion. The opinion of my delegation is that the time has come to take the political decisions which stand in the way of reaching a final agreement.

Political decisions of course do not arise out of a vacuum. They should be based upon an acceptable and mutually satisfactory solution of the essential preconditions of a viable treaty. In this context the problem of verification deserves further study in order to find means and methods to assure compliance with the treaty combining the exchange of teleseismic data with on-site inspections whenever the former are not likely to provide adequate assurances.

CCD/PV.761 pp.11-12, 16

Japan/Ogiso

11.8.77

PNE

Secondly, all the members of the NPT in their nuclear co-operation with non-member States, should request the latter to accept at least the application of IAEA safeguards to all of their civil nuclear activities, and further, should co-ordinate their export policies in such a manner that the control to be applied to the civil nuclear activities of those States outside the NPT should be stricter than the safeguards which the parties to the Treaty have accepted. This would give the non-member States a special incentive to become parties to the NPT.

Thirdly, the nuclear-weapon States should voluntarily submit their civil nuclear

activities to the IAEA safeguards system. At the same time, these States should commence negotiations for cutting-off the production of nuclear fissionable materials for weapons purposes, as I will mention later in this statement. In this connexion, I welcome the fact that both the United States and the United Kingdom have already concluded safeguards agreements with the IAEA, and I would like to request these two States promptly to apply the IAEA safeguards to their facilities for peaceful uses by implementing their agreements at an early date. I would also like to appeal to the other nuclear-weapon States to take the same measures.

Fourthly, the role of the International Atomic Energy Agency should be strengthened. It goes without saying that the major objective of peaceful uses under the NPT regime is to develop research, production, and uses of nuclear energy for peaceful purposes, as well as to develop the free exchange of equipment, material and technical information among member States.

Consequently, trying to freeze these legitimate rights and activities of NPT parties even partially out of the fear of nuclear proliferation is not the right way to solve the problem; and in fact, it may be described as a case of "the remedy being worse than the disease".

What really matters is how to prevent nuclear technology and materials, in their application for peaceful purposes, from being diverted to military purposes; in other words, how to establish an effective safeguards system to prevent it. The knowledge and experience of IAEA, accumulated during more than 20 years of its history, should be put to the best possible use, and to this end its role has to be further strengthened.

I would now like to examine in a wider context, beyond the NPT, where the danger of nuclear proliferation lies with respect to both nuclear arms control and the peaceful uses of nuclear energy, and to consider, in a general way, what can be done to prevent such danger on a national, regional and world-wide basis.

As I have already pointed out, the NPT is a global order concerning nuclear arms control. It does not, however, go so far as to prescribe the restriction of production or the elimination of nuclear weapons. However, in discussing the risks of nuclear proliferation, we cannot overlook the fact that the very existence of nuclear weapons is the core of the problem. An increase in the absolute number of nuclear weapons leads to an increase in the possibility of their accidental or unauthorized use. There is also the danger that nuclear weapons or nuclear materials may be lost in accidents or may fall into the hands of terrorists. Having said this, the following measures should be promptly implemented:

(1) Prevention of Accidental Use of Nuclear Weapons.

It is obvious that, with the increase in the number of nuclear warheads, namely, thousands of strategic nuclear warheads and tens of thousands of tactical nuclear warheads, the chances of accidental warfare multiply unless an absolutely effective system of control is established.

At the same time, in view of the fact that the spread of reprocessing and enrichment technology is closely linked to the proliferation of potential nuclear explosive capability, effective international co-operation is required to prevent such a danger. Sharing this concern with many other countries, my Government is ready to join in such co-operation in order to contribute to the establishment of an effective nuclear non-proliferation policy.

For the effective control of these sensitive materials and technology it would be useful to:

- (i) carry out the proposed international nuclear fuel cycle evaluation programme;
- (ii) examine the technical possibilities of extracting plutonium in a form inappropriate for the production of nuclear weapons;

(iii) conclude a CTB treaty and to urge as many countries as possible to accede to it in order to prevent plutonium from being used for nuclear test explosions.

(2) With regard to the international nuclear fuel cycle evaluation programme mentioned above, my Government is ready to support it provided that the nuclear development programme of my country will not be hampered. To make this international evaluation programme truly authoritative and effective, it is indispensable that the greatest possible number of interested countries, including the so-called "threshold" countries as well as nuclear-weapon States, join in this effort. It is desirable that available data concerning their national facilities should be provided as inputs for this evaluation.

(3) Even while such an international evaluation is being undertaken, we believe that the reprocessing and plutonium utilization programmes of such non-nuclear-weapon States members of the NPT as urgently require the reprocessing of spent fuel to meet their growing energy demand should not be hindered.

(4) Lastly, the question of the physical protection of nuclear materials; that is, the possible danger of loss or hijacking which also involves environmental pollution. Taking into account the study and proposals made by experts under the auspices of the IAEA, I should like to point out the necessity of establishing an international arrangement for the physical protection of nuclear materials during their storage and transportation.

CCD/PV.761 p.21

Mongolia/Erdembileg

11.8.77

CTB

In this context, my delegation would like to emphasize once again that the Soviet draft treaty on general and complete prohibition of nuclear weapon tests can provide a sound basis for agreement on a mutually acceptable solution to the problem of the comprehensive banning of nuclear-weapons tests. As we have pointed out more than once, the Soviet draft provides for the participation in the treaty of all nuclear-weapon States, without exception, which is one of the vital aspects of the problem. A selective approach to this question would not be in keeping with the fundamental objectives of the treaty.

As regards the question of control, we strongly endorse the viewpoint that national means of detection, supplemented by international co-operation in the exchange of seismological data, are sufficiently effective.

My delegation, in its statement at the spring session of the CCD observed that it based its views regarding this question both on the fact that all States should be able to enjoy the possible benefits of the peaceful use of nuclear explosions, as well as on the real possibility of reaching generally acceptable agreement on their international legal regulation, provided that the necessary political will is demonstrated by States.

CCD/PV.764 pp. 11-12

Poland/Wyzner

23.8.77

CW

Mr. Chairman, the other important issue on which early progress towards an effective ban on chemical weapons depends is -- as I said a little while ago -- that of verification. It is increasingly argued in the Committee on Disarmament that, to be really effective, a verification system must be tailored specifically to each and every arms-limitation or disarmament agreement negotiated.

My delegation is fully satisfied that national means of control over compliance with a comprehensive ban on chemical weapons, combined -- as suggested in the memorandum of the USSR on questions of ending the arms race and disarmament (CCD/522) -- with certain supplementary control procedures with regard to the verification of the destruction of stockpiles of chemical weapons, would be quite adequate.

The Polish delegation is also of the view that a comprehensive CW convention must provide either for the dismantling or for the conversion to peaceful civilian uses of all chemical weapons manufacturing facilities. No matter how sophisticated and fail-safe the non-intrusive method employed to verify that declared "C" weapons plants had stopped production, without actually being dismantled, the mere moth-balling of such plants would tend to breed suspicion as to the credibility of such a convention. Such a solution, moreover, might suggest, even against the best intentions of the parties, that the ban was of a provisional and tentative character.

CCD/PV.764

pp.16-17

Sweden/Hamilton

23.8.77

CW

Regarding the question of verification of disarmament conventions, the idea of enlisting the services of a consultative committee seems to be gaining support. A first model was elaborated in the Enmod Convention. Concrete suggestions have been envisaged also with regard to a CW and a CTB treaty. It must, however, be remembered that the complexity with regard both to scope and to verification is greater for a chemical convention than for the Enmod Convention and possibly for a CTB treaty. Thus the tasks and procedures of a consultative committee may not be exactly the same for every disarmament convention.

The Swedish delegation maintains that effective verification is of great importance for a CW convention. However, single effective, non-intrusive verification methods have not appeared. This means that it is necessary to try to explore additional ideas. The Swedish delegation believes that it is important to call attention to the fact that the acquisition of chemical agents, weapons and delivery systems is not the only decisive factor when it comes to acquiring an offensive chemical-warfare capability. Equally and perhaps more important are the necessary training, planning and organization preparations. Countries wishing to keep open the option of acquiring a rapidly realizable and military significant CW warfare capability will have to make plans and prepare and train their armed forces in advance. This means that identifying such preparatory measures will constitute a necessary and probably effective method for the verification of a chemical convention. Earlier Sweden (inter alia in CCD/PV.499 of 1971), the Netherlands (CCD/PV.522, CCD/PV.560 and most recently CCD/PV.758) and Yugoslavia (in CCD/377) have argued along this line. Regrettably that aspect has so far been very little discussed.

It would thus seem pertinent to identify which critical factors it is necessary and possible to observe regarding e.g. training, organization, operational knowledge and planning of chemical warfare. This would give a reliable indication whether a country, contrary to its obligations under a CW convention, is retaining or preparing to acquire an offensive chemical-warfare capacity. It cannot be argued that the convention should permit activities of the kind mentioned and that accordingly they should not be subject to observation. It is generally agreed that the purpose criterion should be comprehensive. This implies that not only the development, production and stockpiling of the weapons but also other preparations for offensive chemical warfare must be prohibited. It would be interesting to know the opinions of other delegations on this subject.

The Swedish delegation welcomes the two working papers on the verification of a CW treaty (CCD/538 and CCD 539) presented recently by the distinguished leader of the Soviet delegation. We will study them thoroughly in order to present our comments at a later stage.

Verification is without doubt the most important and at the same time the most difficult of the problems still unresolved, and it is also the reason for the modest progress made so far towards a convention.

As we see it, the effectiveness of a verification system depends on a combination of different means, and there is no doubt that the evaluation of statistics and a centralized information exchange system will be useful in this respect. But the value of these elements should not be overrated. In the final analysis the system would not be sufficiently effective without international on-site inspections. They should, as a rule, be of a routine nature: in other words, it should be possible to carry them out without having to give any special reasons. Inspections on challenge, which would have to be based on suspicion, should play a merely supplementary role. The regularity of inspections would be a key factor in confidence-building, whereas restriction of the system mainly to inspections based on suspicion could spread distrust and place a strain on relations between States.

Some countries have expressed concern that international verification systems, especially on-site inspections, would ultimately mean the surrender of commercial and military secrets. We, however, are convinced that a verification system can be designed which will ensure the protection of these secrets, at least to the extent that they are legitimate within the meaning of the convention. It has already been said that the same concern was expressed when the IAEA safeguards system was first discussed, but that it has since proved to be unfounded. Today those safeguards are being applied in many parts of the world and there have been no complaints about attempted espionage.

It seems that on-site inspections will be least problematical with regard to the destruction of chemical weapons, and it is pleasing to note that the Soviet Union now appears willing to discuss this aspect. However, this kind of destruction control does not rule out the possibility of replenishment by clandestine production of single-purpose agents or covert diversion of dual-purpose agents from peaceful production.

We therefore consider it important that compliance with the ban on production of single-purpose agents and the exclusively civilian use of certain dual-purpose agents should be verified by the most effective means possible, including on-site inspections. In this connexion we welcome the proposal that certain precursors, which are especially relevant to the manufacture of chemical weapons, should also be incorporated in the convention and hence made subject to controls.

The verification problem has also featured prominently in the development of the idea of a phased approach.

People competent to judge have pointed out that the destruction of existing stocks of chemical agents is an expensive and complicated process and would, for technical reasons, take quite some time. That period could be used to strengthen confidence among States that the convention is being complied with. The importance of the convention and the considerable difficulty of ensuring effective verification would justify a review of its effectiveness after several years, but before the destruction process had been completed.

Another reason why this precaution should be taken, of course, is that, as far as we can see, a CW convention would be the first actual step towards disarmament to be linked with the attempt to verify compliance with it. The BW convention, as we know, is no model in this respect, so a successfully verified CW convention would be a breakthrough of historic significance.

Agreement on the scope of the prohibition appears to be the least problematical aspect. The view that a convention should from the outset embrace not only supertoxic but other lethal and highly toxic chemicals, as well as incapacitants and binary weapons,

has, so far as we can see, gained general support. Considering the aim of a comprehensive prohibition, this is only to be desired. The inclusion of precursors and their control is of great importance for effective verification of the non-manufacture of binary weapons.

We welcome the fact that, over and above a general purpose criterion, the objective criterion of toxicity is now generally accepted for the definition and that a number of delegations have commented favourably on the idea of making allowance for additional criteria. Our aim in suggesting that additional criteria relevant to application should be used and that different categories of toxicity should be considered was to make the distinction between warfare agents and substances not suitable for military purposes as clear as possible. It should be made impossible for substances whose toxicity is above an agreed level to be classified as chemical weapons when they lack the other criteria relevant to their use for military purposes and are thus suitable for peaceful purposes only. Otherwise they would erroneously be considered dual-purpose agents and therefore subject to control of their use. This would lay an unnecessary burden on industry and on the body responsible for verification. It should also be remembered that, with the inclusion of incapacitants, the number of substances in respect of which criteria other than toxicity are of growing significance would probably increase as well. We have the impression that, as a result of the inclusion of incapacitants in particular, there is still a good deal of work to be done in order to reach a clear definition. But agreement will without doubt be possible on this point. Above all, however, it is essential that we should continue with zeal and patience our search for a solution to the more difficult problem of verification which meets the security requirements of all States.

CCD/PV.765

pp.14-15

Pakistan/Yunus

25.8.77

PNE

During the spring and summer sessions this year, the danger of nuclear proliferation has been repeatedly and forcefully underlined. An atmosphere of renewed concern seems to pervade these references. Pakistan appreciates this renewed concern and fully shares it. It could not be otherwise, since we have been constantly voicing this concern now for well-nigh a decade, not always to a receptive audience. Pakistan has also taken several initiatives to avert this danger and remains determined to pursue them. That this concern is now generally shared is, therefore, a welcome sign. I must, however, express our disappointment with the approach that is being generally advocated to this problem. The major nuclear Powers and their allies — the so-called "London Club" — appear to have placed their trust in (a) the Nuclear Non-Proliferation Treaty and (b) unilateral controls and restraints on the transfer of nuclear technology (even under the strictest international safeguards).

We cannot help feeling that this approach is not only unlikely to attain its objective but would, in fact, be dangerous in that it could (i) deflect the thrust of the attempts at non-proliferation and (ii) create a false sense of confidence in the proposed non-proliferation regime.

Let me first comment on the Non-Proliferation Treaty. I need not repeat here that Pakistan supported the adoption of the non-proliferation treaty in the United Nations General Assembly in 1968. However, it was our view then, and has been since, that this treaty could not prove an effective barrier against nuclear proliferation unless and until (a) the treaty was subscribed to by the major "threshold" Powers, and (b) the security of non-nuclear States was effectively safeguarded.

As it is, most of the threshold nuclear States have made it clear that they will not join the NPT because of its so-called discriminatory nature. Nor has any progress been made towards devising effective measures to safeguard the non-nuclear-weapon States

against the threat or use of nuclear weapons. Pakistan has made several efforts to promote a consensus on this subject. The attitude of the nuclear Powers, except China, has been one of indifference.

The new policy of restraints and embargoes on the transfer of nuclear technology, despite the imposition of international safeguards, cannot be successful for several reasons. First, it contravenes the principle of the sovereignty of States; second, it violates the "bargain" between the nuclear "haves" and "have-nots" embodied in the NPT and the concept of international safeguards; third, it involves discrimination not only between nuclear and non-nuclear States but even among non-nuclear States; and fourth, this policy can only be construed as an effort to deny the potential benefits of nuclear technology to the developing countries.

I have set out this point in order to explain that such a policy can hardly be expected to secure general acceptance or compliance, regardless of all the pressures and inducements exercised on individual States. Sooner rather than later, the developing countries are bound to adopt a common position on this issue, thereby leading to further difficulties in North-South relations.

In any case, restrictions on the transfer of nuclear technology can be at best only a short-term and partial answer to the problem of nuclear proliferation. The so-called "sensitive" technologies, such as plutonium reprocessing, are in fact available from public sources. The acquisition of this technology by an increasing number of States cannot be prevented through pressures. The best course for the international community is to ensure that this and other nuclear technology are acquired under the necessary controls and safeguards.

My Government has also given the United States proposal for a nuclear fuel cycle evaluation programme the consideration it deserves. We do feel, however, that the proposal appears to be based on an incorrect premise -- that plutonium reprocessing plants and breeder reactors are "bad". As the distinguished representative of Japan has already pointed out in this Committee, plutonium reprocessing is a proven and well established technology which is essential for many fuel-deficient non-nuclear States. In addition, we feel that it would have been preferable to undertake this programme within the United Nations system, for instance under IAEA.

CCD/PV.766 pp.11-12

Mongolia/Erdembileg

30.8.77

CW

The question of control over compliance with the provisions of a future convention on the prohibition of chemical weapons is one of the key components of this problem. As is generally acknowledged, this intrinsically complex question, or more accurately the actual process of control, must not be allowed to encroach upon the sovereign rights of States parties to the convention or the national security interests of any of the parties.

My delegation is firmly of the opinion that efficient monitoring of compliance by States with the obligations they have assumed is perfectly feasible on the basis of national means of verification, together with certain procedures of an international nature as proposed in articles V and VI of the joint draft convention submitted by the socialist countries in 1972.

The Soviet Union and the other socialist countries, moved by a sincere desire to reach agreement as quickly as possible on the question of control, and meeting the wishes of a number of countries halfway, have taken and are taking new steps in amplification of the relevant provisions of their joint draft convention on the question under discussion.

As you know, the delegations of the Soviet Union and Hungary recently submitted for the Committee's consideration new working papers which, in our opinion, contain

constructive ideas on questions relating to methods of monitoring compliance with an agreement on the prohibition of chemical weapons, and which are aimed at revealing the potentialities of national means of control, in particular extraterritorial monitoring, verification of the destruction of declared stockpiles of chemical weapons, and a possible method of defining toxic chemical agents.

We hope that other participants in the discussion will adopt a businesslike approach to these proposals in order to help in reconciling the positions of the parties and thus promote the speedy attainment of agreement on the question of control. A favourable solution to this complex problem as a whole would be of help in completing the draft of an appropriate international agreement.

For our part, we think that the adoption of a generally acceptable solution to the problem of control would contribute greatly to the achievement of significant progress in the current negotiations on other disarmament problems as well, particularly in the area in which the question of control has long been a stumbling-block on the way to a political solution. In this conviction, we would again appeal to the members of the Committee to show flexibility and demonstrate their political will and determination to reach concrete results.

CCD/PV.766 pp.16-17, 19

USSR/Likhatchev

30.8.77

CTB,PNE,CW

In the course of the Committee's spring and summer sessions, on the basis of the draft agreements submitted by the Soviet Union (CCD/523) and Sweden (CCD/526 and CCD/526/Rev.1), the problem of the complete and general prohibition of nuclear-weapon tests underwent especially thorough discussion: a fact which is quite natural inasmuch as the cessation of the nuclear-arms race as a whole depends in many respects on its solution. The main questions discussed in that connexion were those dealing with control over compliance with an agreement on this problem, nuclear explosions for peaceful purposes and the participation of States in the agreement.

The Soviet Union remains convinced that national means of control are sufficient, and this is confirmed by the arguments of specialists. In this connexion we would like to express our agreement with the statement of the Swedish delegation to the effect that the proper use of seismological identification makes it possible to develop a politically reliable system of control without resorting to mandatory on-site inspection. The adequacy of remote monitoring to ensure compliance with the treaty was referred to in the statements of several other delegations.

However, in an endeavour to get the negotiations moving again and pave the way for an agreement, the Soviet Union introduced into its draft treaty on the complete and general prohibition of nuclear-weapon tests an additional provision which envisages the possibility of on-site verification, on a voluntary basis, if any doubts should arise with regard to the fulfilment of its obligations by any party to the treaty. This is a major step to meet the Western countries, and a reasonable compromise which takes into account the positions of all parties. Hence we are profoundly convinced that the question of control should no longer be an obstacle in the way of agreement. We would like to express once more our satisfaction with the broad positive response in the Committee to this step on the part of the Soviet Union, in particular from the delegations of the socialist countries and those of India, Pakistan, Iran, Nigeria, the United States, the United Kingdom, Sweden, Japan, Italy, Canada and other countries.

We are relying on the Ad Hoc Group of Scientific Experts to consider International Co-operative Measures to Detect and Identify Seismic Events, which is due to complete its work in the spring of 1978, to make its contribution to the solution of this problem.

In calling for the cessation of all nuclear-weapon tests, the Soviet Union attaches

great significance to extensive peaceful use of atomic energy, including nuclear explosions for peaceful purposes as an integral part of that general problem. Article III of the Soviet draft treaty provides for the conduct of underground nuclear explosions for peaceful purposes. At the same time we are fully aware that the use of such explosions must not promote, in any degree, the proliferation or improvement of nuclear weapons or the development of new types of such weapons.

While acknowledging the importance of the peaceful use of nuclear energy to an ever-increasing number of countries, the Soviet Union considers it necessary that co-operation in that field should be accompanied by guarantees precluding the proliferation of nuclear weapons. The Treaty on the Non-Proliferation of Nuclear Weapons is the basis of the regime of non-proliferation of nuclear weapons, and it is therefore a duty to strengthen the Treaty further in every possible way and to increase the number of Parties to it.

In the course of the 1977 sessions, further work was done on the question of prohibiting another type of weapon of mass destruction — chemical weapons. In the view of the delegation of the Soviet Union, the discussion on this question in the Committee was active, many-sided and constructive. Guided by the desire to exclude this type of weapon from the arsenals of States, a number of delegations presented their thoughts on different aspects of the prohibition of means of chemical warfare, and in particular on the scope of the prohibition and control over compliance with the agreement. This undoubtedly made it possible to clarify the positions of the parties even further.

The active discussion of the problem of prohibiting the development, manufacture and stockpiling of chemical weapons and of their destruction was greatly facilitated by the presentation of working papers on the solution of this complex and multi-faceted problem by a number of delegations, in particular those of the Soviet Union, Hungary, Japan, the United States, the Netherlands and the United Kingdom.

As you know, in the course of the summer session the USSR delegation submitted two working papers enlarging upon a clause in the USSR memorandum on questions of ending the arms race and disarmament, in which the USSR states its readiness to examine the possibility of using additional supervision procedures. We believe that both those papers — CCD/538, entitled "Some methods of monitoring compliance with an agreement on the prohibition of chemical weapons", which discusses in particular the potentialities of extraterritorial monitoring, and CCD/539, entitled "Verification of the destruction of declared stocks of chemical weapons", which discusses methods of checking on the destruction of declared stocks of chemical weapons — will assist in reaching mutually acceptable solutions to one of the key problems of a future agreement, i.e. that of control.

CCD/PV.767 pp.45-47

Sweden/Thorsson

31.1.78

CTB

As regards the verification of a CTBT, all parties must be given equal rights and responsibilities as regards the control of compliance with the treaty. The right of full access to relevant data and information systems is of vital importance. The main part of a verification system under a CTBT is planned to consist of an effective international exchange of seismological data from a global network of seismological stations. It is obvious that the elaboration of such a global system must be a matter of multilateral negotiations. I wish to stress the importance my delegation attaches to this question. The Swedish draft CTBT (CCD/526/Rev.1) contains provisions for an effective international exchange of seismological data and for a procedure involving on-site inspections.

At this moment, in view of the forthcoming multilateral CTB negotiations, I would

like to point out some measures which should be considered now in order to facilitate the adequate verification of a comprehensive test ban treaty. The intention of such measures is to enable also States which have limited resources as regards detection seismology to make an independent assessment of globally collected and pre-analysed data. It will for this purpose be required to establish an international system consisting of a network of selected seismological stations, a communication network and international data centres.

In order to facilitate an early conclusion of a CTBT, it is important in our view already at this stage to take measures to initiate the establishment of an international monitoring system. To create the necessary basis for such an international co-operation, CCD members and also other countries should be prepared to participate in the data exchange by providing data for detection and identification of seismic events. In consequence with our earlier initiatives in promoting international seismological co-operation, we would be ready to take a further step in order to contribute to the establishment of an adequate international monitoring system. Provided that satisfactory arrangements can be made, the Swedish Government would be prepared to take measures to establish, to operate and to finance an international seismological data centre. No doubt the findings of the CCD seismological Ad hoc Group will be a valuable guide in establishing procedures for this international data exchange.

The final report of the Ad hoc Group is expected to be submitted to the CCD in about a month's time. We are pleased to note the progress made in the work of the Group so far. Without anticipating the conclusions and recommendations of the Ad hoc Group, a number of measures can be identified that are required in order to put an international data exchange system into operation. For this purpose, it is obvious that the CCD will also in the future need the assistance of seismological experts. In the Swedish view the CCD should as early as possible take a decision regarding the continuation of the efforts to establish such a system. In this context it should be mentioned that the Japanese delegation on 3 March last year in the CCD suggested an "experimental exercise". The Swedish delegation welcomes this proposal. It is important, however, that such an "experimental exercise" does not delay the establishment of an international data exchange system. It should rather be seen as the initial phase in the operation of such a system. The objective should be to have a data exchange system, which is fundamental for the international control of a CTBT, fully operative when such a treaty enters into force.

While discussing the question of verification I would like to touch upon the problem of on-site inspection and other non-seismological methods of verification, that is reconnaissance from satellites. For similar reasons as in the case of seismological data exchange, such other verification measures must not become the exclusive concern of the major nuclear-weapon Powers. It is essential for the viability of a CTBT that verification is carried out with genuine international participation and that all parties to the treaty have full access to all relevant data and information. The procedures for international participation and exchange of information will of course depend on the outcome of CCD negotiations.

From our previous discussions it appears to be a generally accepted view in the Committee that certain procedures for consultation and co-operation in questions relating to the implementation of a CTBT are desirable. We are pleased that many delegations have endorsed the concept of a consultative committee as proposed in the Swedish draft treaty referred to earlier. We have in mind an advisory body which would be the main instrument of the parties in all matters relating to the functioning and implementation of the treaty.

The main purpose of the committee should be to inspire confidence in the effectiveness of the treaty and to increase its viability. As its name indicates, the committee

should have an advisory role. In view of the vital importance of the confidence building aspect, it would seem natural if the committee would meet with some periodicity. Satisfactory arrangements must be worked out for ensuring a close liaison between the work of the committee and the international system of exchange of seismological data and other verification measures. One possibility might be to entrust to the committee the important task of guiding the operation of the monitoring system. Provisions in this respect could be included in a protocol annexed to the treaty in connexion with arrangements for technical supervision of the compliance with the treaty.

CCD/PV.771 p.12 India/Gharekhan 14.2.78 VER

As is well recognized and understood by all, verification is an important element in disarmament agreements. My delegation is of the opinion that we should not be rigid as regards the means of verification. Insistence on only one type of verification or a set of verification methods would only reduce the credibility of the principle of verification. Verification should be a judicious combination of national and international means, exchange of information and data, consultative bodies, etc. The credibility of disarmament agreements in our view rests on trust, and trust begets trust. If one were to start on the premise of suspicion and doubt, no worth-while disarmament agreement would be achieved. Furthermore, verification should not become a medium or pretext to infringe the sovereignty or the security or other interests of States.

CCD/PV.771 pp.18-19, 20 Czechoslovakia/Ruzek 14.2.78 CTB,CW

In the three decades of their existence, nuclear weapons have become part of military arsenals and form the most dangerous component of the military potential. That is why nuclear disarmament forms the corner-stone of true progress in the field of disarmament. At present the most significant step to reduce the danger of a nuclear confrontation is the general and complete prohibition of nuclear-weapon tests in all environments. After many years of unsuccessful negotiations, a situation has arisen in this area which strengthens our hopes that within a short time an important solution might be reached, aimed at a general and complete prohibition of all tests. Favourable conditions, which have to be made use of, have in our view been created by the Soviet proposal for a CTBT tabled in 1975 and amended in 1977, by compromise provisions on the question of verification, by the positive trend of the tripartite talks between the USSR, the United States and the United Kingdom and, particularly, by the recent statement of the USSR on its willingness to reach an agreement on a moratorium on nuclear explosions for peaceful purposes together with a ban on all nuclear weapons tests for a definite period, as well as by the positive results of the deliberations on this question at the thirty-second session of the United Nations General Assembly.

An important contribution in this field is the work done by the Ad hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events. The report, which the Group is to adopt this month at its fifth meeting, will provide a technical analysis of an international system for the needs of Governments and the CCD which will make it easier to verify the implementation of a possible agreement on the prohibition of all nuclear-weapon tests, i.e. to facilitate the verification of underground tests. It is envisaged that the proposed global co-operative seismic network will consist of national seismic stations or networks linked by a uniform procedure in acquiring and transmitting information about seismic signals. Information would be sent through the Global Telecommunications System (established and used by

the World Meteorological Organization) to three centres for standard processing (localization); the question of identification would, however, lie within the exclusive competence of a national institution. It is assumed that for a world network, approximately 50 stations would be sufficient, the locations of which, however, have not yet been definitely decided on.

It should be emphasized that the accuracy of acquired data for detection, localization and identification will continue to improve further on condition that all stations are equipped with up-to-date recording equipment. The last meeting of the Group of Experts will make the final revision of the group's report. What is important is that from a technological point of view, through close co-operation among the selected national stations, a world network can be established, able to contribute effectively to verification of the agreement on the prohibition of nuclear weapon tests.

Significant progress has been achieved after long years of stagnation on the question of the complete prohibition of chemical weapons and of the destruction of their stockpiles. We welcome the progress which has been achieved in bilateral talks between the USSR and the United States so far, as announced in the statements of their representatives at the 767th plenary meeting, on 31 January this year. We especially appreciate that an agreement has been reached on the scope of the ban, and that it is proposed to ban the development, production and stockpiling of all chemical weapons, and to destroy the stocks of these weapons. As far as the main controversial problem is concerned, i.e. the question of verification, we are of the opinion that obligatory site inspection would be technically immensely demanding and could not be carried out without negative consequences for the sovereign rights of the contracting parties.

It is becoming obvious that the only suitable effective solution lies in verification using national means, together with certain international procedures. After many years of discussions on this question in the Committee, there are enough background documents to start preparations for a concrete text of the future treaty. They also include the proposal of the socialist countries of 1972, the practicability and topicality of which has been confirmed in the course of the latest talks.

CCD/PV.771 p.23

FRG/Pfeiffer

14.2.78

CW

Considering the present state of our deliberations, a comprehensive ban on chemical weapons, including the controlled destruction of all existing stocks, appears possible. I gather from what the representatives of the two countries negotiating these matters said on 31 January that a large measure of agreement has already been achieved on a large number of questions. But the negotiating parties have not yet come up with an answer to all verification problems. My delegation therefore again urges them to find early solutions to the outstanding questions. As regards verification, we have pointed out before that we have experience with international controls to ensure observance of the ban on the manufacture of chemical weapons, controls which the Federal Republic of Germany accepted voluntarily.

No one, not even we ourselves, can say that these international controls have hampered the development of the German chemical industry, which is of such importance to the over-all growth of my country's economy. We therefore want to share our experience with others and to help develop an economically innocuous control system which will ensure observance of a ban on the development, manufacture and stockpiling of chemical weapons.

CCD/PV.773 p.20

Mongolia/Erdembileg

21.2.78

CTB

The Mongolian delegation fully shares the hope of other members of the Committee that the result of the tripartite talks now in progress will be made known here in the very near future. We expect from the participants in those talks results which will enable the Committee successfully to complete its task of agreeing on the text of a treaty on the complete and general prohibition of nuclear weapon tests.

With regard to the question of verification, which has proved difficult to resolve in practically all earlier negotiations on the elaboration of international agreements in the sphere of disarmament, we hold the view that it must not be allowed to become a stumbling block on the road to achieving agreement as rapidly as possible on a mutually acceptable solution. On the question of checking, we maintain as before that national detection devices, supplemented by international co-operation in the exchange of seismological data, should be considered sufficiently effective. We have already stated our view that this provision, supplemented by the Soviet proposal concerning the possibility of verification on the spot with the permission of the State concerned, could serve as a basis for consensus on this matter.

We think that the question will be more or less cleared up when our Committee proceeds within the next few days to discuss the final results of the work of the Ad hoc Group of Scientific Experts on seismological matters.

CCD/PV.775 p.9

GDR/Herder

28.2.78

CTB

The spring session of the CCD concentrates on the preparation of a draft treaty on the complete and general prohibition of nuclear weapon tests. The Committee has done thorough preliminary work on this matter. We have learnt with satisfaction that the trilateral negotiations on this topic are continuing intensively at this time, and that the results of these discussions will hopefully be presented to the CCD at an early date.

My delegation welcomes the progress already achieved in this field. We do not underestimate in any way the complicated nature of the problems to be solved in this connexion. But in our opinion, the issues which still remain outstanding could quickly be solved if all parties display the necessary political determination.

As is well known, the Soviet Union has made far-reaching concessions in order to facilitate an understanding. They relate not only to the question of the moratorium, to the readiness to halt, for a stipulated period, nuclear tests for peaceful purposes, but also to the readiness to participate in the search for a solution of the problem of on-site inspection verification in a voluntary framework.

The CCD, for its part, has made great efforts to contribute to the task of determining the possibilities for thorough verification of a CTB Treaty without mandatory on-site inspections. The question is whether the time is not ripe for other parties, too, to display the same flexibility and to take the necessary steps with a view to bringing these negotiations to a successful conclusion. This would be an important step towards an agreement of unlimited duration on the prohibition of all nuclear weapon tests with the participation of all nuclear-weapon Powers, including France and China. This would open the way to further steps leading gradually to the complete and total destruction of all nuclear weapons.

We therefore propose that the following should be provided for in the said treaty: "Any State Party to the Treaty shall not conduct any nuclear explosions for peaceful purposes unless agreement is reached on appropriate international supervision and procedures which will ensure that no weapons-testing can be carried out under the guise of nuclear explosions for peaceful purposes", and "The States Parties to this Treaty shall undertake to continue in good faith negotiations on the appropriate international supervision and procedures referred to above, and shall make a periodic review of their achievements".

Now, turning to the vexed question of verification, agreement has been reached in principle between the United States and the Soviet Union on the necessity of on-site inspection, which has been the biggest issue up till now, and hence an early solution to the question is expected. In this connexion, my delegation welcomes the fact that the Soviet Union has admitted the need for on-site inspection.

While looking forward to an early agreement on verification between the United States, the United Kingdom and the Soviet Union, I should like now to turn to the technical aspect of verification, namely, international seismological data exchanges. This is, in our view, the most important and valuable technical contribution that the CCD can make towards facilitating the early conclusion of a CTB treaty without necessarily waiting for and without prejudging the conclusion of the trilateral negotiations of the United States, the United Kingdom and the Soviet Union.

The usefulness of international exchanges of seismological data has been repeatedly pointed out by a number of representatives. It is widely understood that, if data on a suspicious seismic event could be exchanged through international co-operation -- in addition to those available from national seismic stations of each State -- then it would be extremely helpful in perfecting the verification of a CTB treaty. The Ad Hoc Group of Experts on Seismic Events, which was established on the basis of the above-mentioned idea, has worked under the auspices of the CCD since August 1976 and has studied, theoretically as well as empirically, possible methods of international co-operation, and is to present its final report to the CCD soon. My delegation highly appreciates its intensive work and its achievements.

We feel that the prompt exchange of seismic data is essential to verification under a CTB treaty. In this connexion, I would like to recall that we made it clear in working paper CCD/524 last year that, by using the data network of WMO, by which data can be obtained promptly and without any substantial and additional costs, the existing main array stations can not only locate but even verify considerably small yields of seismic events in a very short period.

My delegation wishes to suggest that this Committee, after considering the final report of the Ad Hoc Group of Experts, should decide on the continuation of the work of the Group with a view to conducting experimental exercises of those results which the Group has obtained through its theoretical and empirical study in line with the proposals so far made by my country. If such a decision is taken, my delegation wishes further to suggest that an informal technical meeting of experts should be held to make the preparations necessary for experimental exercises. If positive support is obtained to hold such a meeting for experimental exercises, the Government of Japan is prepared to host it in Tokyo at an appropriate time this year.

How to set up and decide upon the membership of an international organ for verification such as an international consultative committee is another matter. How much competence and what functions should be given to such an organ should still be considered carefully and should be decided through the deliberations of the CCD following the trilateral negotiations by the United States, the United Kingdom and the Soviet

Union. However, the operation of the technical system of the international data exchange to be implemented under such an organ can be prepared right now even without such a political decision. My delegation wishes to emphasize that if, upon a decision to continue the work of the Ad Hoc Group, experimental exercises are conducted in parallel with the trilateral negotiations, and if a de facto technical system is devised based on the results of these exercises, we will be in a position to operate the technical system of data exchanges within the framework of the international verification system under the CTB whenever and whatever political and legal decisions are made as to its functions and competence. In so doing, the CCD will make a great contribution in the process of elaborating a CTB treaty text. I would like to add that, if the three countries, namely, the United States, the United Kingdom and the Soviet Union, indicate to the CCD now how they contemplate in their trilateral negotiations the methods of international seismological data exchanges, it will greatly facilitate the future work of the Ad Hoc Group of Experts.

CCD/PV.778 pp.24-25

USSR/Likhatchev

9.3.78

NB

The position of the Soviet Union on this question is well known. It has been clearly expressed by Mr. L.I. Brezhnev, General Secretary of the Central Committee of the Communist Party of the Soviet Union, and Chairman of the Presidium of the Supreme Soviet of the USSR: "We propose that agreement should be reached on mutual renunciation of the production of the neutron bomb so as to save the world from the emergence of this new weapon of mass destruction. This is our sincere desire, our proposal to the Western powers". This initiative, as well as other concrete proposals by the Soviet Union aimed at ending the dangerous arms race and at disarmament, meets the innermost aspirations of all the peoples. That is why it has met with a broad response and enthusiastic support throughout the world. It is gratifying that in the Committee on Disarmament, too, a number of delegations supported this proposal by the USSR. They pointed out that such an authoritative organ as is the Committee on Disarmament cannot ignore this important and topical disarmament question.

Seeking to contribute to the halting of the arms race, particularly in the field of means of mass destruction, and realizing the danger to peace and security, represented by the nuclear neutron weapon, the socialist countries members of the Committee on Disarmament, namely, the People's Republic of Bulgaria, the Czechoslovak Socialist Republic, the German Democratic Republic, the Hungarian People's Republic, the Mongolian People's Republic, the Polish People's Republic, the Socialist Republic of Romania, and the Union of Soviet Socialist Republics present today for consideration by the Committee on Disarmament a draft convention on the prohibition of the production, stockpiling, deployment and use of nuclear neutron weapons.

We propose that all the States parties to this convention undertake not to produce, stockpile, deploy anywhere or use nuclear neutron weapons. Control over compliance with the convention would be exercised by the States parties, using the national technical means of verification which are at their disposal in a manner conforming to the universally recognized rules of international law. Furthermore, the States parties to the convention would undertake to consult one another and to co-operate by means including also the use of the appropriate international procedures within the framework of the United Nations and in accordance with its Charter, in solving any problems which may arise in relation to the objectives of, or in application of the provisions of, the convention. There is also a provision to the effect that any State party to the proposed convention may lodge a complaint with the Security Council of the United Nations if it considers that any other State party may be acting in breach of the obligations assumed

under that instrument of international law. The parties to the convention would undertake to co-operate in carrying out any investigation which the Security Council might initiate, in accordance with the provisions of the Charter of the United Nations on the basis of the complaint received by it. The Security Council would inform all the States parties to the convention of the results of such an investigation.

The above-stated provisions are contained in document CCD/559, in the first two articles of the draft convention. The remaining articles of the draft are of a general legal nature.

CCD/PV.779

pp.8-11

Sweden/Hamilton

14.3.78

CTB

The Swedish delegation finds the report of the Ad Hoc Group to be a most valuable contribution to the efforts to establish a monitoring system acceptable to all. The report is the result of considerable work carried out by scientific experts from a number of countries around the world. The Swedish delegation has much appreciated the co-operative and constructive way in which the work has been conducted. We feel that the open and penetrating technical discussions have considerably increased understanding of the verification problems among the countries which have been engaged in this work. Important contributions have been made by scientific experts from invited countries non-members of the CCD.

The report presents a consensus view among the experts on international co-operative measures to be undertaken for the detection and identification of seismic events. It states that there are three basic elements of such international co-operative measures; first a global network of some 50 seismological stations having a suitable geographical coverage. The stations should be equipped with highly sensitive instruments and be capable of the routine and rapid reporting of data not only for the detection and location but also for the identification of seismic events. Second, a fast international exchange of these data over the global telecommunication system of the World Meteorological Organization, and, third, special international data centres for the detection and location of seismic events and for the collection and compilation of identification data. The general technical recognition of these elements will certainly facilitate the further discussion of the establishment of an international monitoring system. Sweden has long been advocating the rapid establishment of such a system.

The Ad Hoc Group also presents estimates of the capabilities of networks of seismological stations to detect and to locate seismic events and to obtain identification data. These estimates show that the present seismological capability is significantly lower in the southern than in the northern hemisphere. To obtain a high monitoring capability in the southern hemisphere also, further improvements have to be made by establishing additional highly sensitive stations in that part of the world.

Such estimates contain some elements of uncertainty that can be verified only by practical experiment. In our view, however, the results support our earlier conclusions that a monitoring system based primarily on presently operating stations would, at least in the northern hemisphere, provide a high degree of deterrence against clandestine explosions and a high ability to counteract unfounded suspicion that might be created by natural earthquakes.

The report of the Ad Hoc Group presented to us today is to a considerable extent based on theoretical considerations. The next obvious step is to obtain practical experience of how components of such a system should be arranged in practice. This brings me to the next point of my intervention today, the continuation of the Ad Hoc Group. The need to obtain practical experience through the conduct of an experimental exercise is clearly expressed in the report. In this connexion, we also take note of the

interesting proposal by the Japanese delegation on 3 March 1977 (CCD/PV.733) to conduct an experimental exercise, and of the Japanese offer on 2 March 1978 (CCD/PV.776) to host an expert meeting as part of the preparation for such an experiment.

We believe it to be a most urgent task to test and to try out in practice a system of international exchange of seismological data. Indeed we see this as a natural continuation of the more theoretical work of the Ad Hoc Group. The experiences drawn from such experiments will certainly be indispensable for the further elaboration of an international monitoring system under a CTBT. The main purpose with the monitoring system is to enable also States which have limited resources as regards detection seismology to make an independent assessment of globally collected and pre-analysed data. In order to ensure that a CTBT will be generally adhered to, it is essential that all parties — when the treaty enters into force — are given equal opportunities to verify by such means compliance with the treaty. All parties should be ensured full access to all relevant data and information supplied in the framework of the international seismological monitoring system.

It is important that the CCD now take further steps in this matter. The Swedish delegation therefore proposes that the CCD decide as soon as possible that the Ad Hoc Group should be maintained and continue its work under a new mandate. In working paper CCD/562, which I will now introduce, Sweden has tabled a draft proposal for such a mandate.

The suggested new terms of reference are similar to those which guided the earlier work of the Ad Hoc Group. The main difference is that the Ad Hoc Group in its continued work would study the more practical and operative aspects of the implementation of international co-operative measures. As outlined in the working paper, the Ad Hoc Group would study the over-all functioning of a system for the exchange and processing of seismic data relevant to test-ban monitoring between a number of globally distributed stations and seismological data centres. Furthermore, the technical arrangements studied during the experiments should not prejudice the final arrangements for a monitoring system, which obviously must be the result of the forthcoming multilateral CTB negotiations. The work should be purely scientific, and the Group should not assess the adequacy of the system for verifying a comprehensive test ban.

The composition of the Ad Hoc Group in its continued work would remain unchanged. We hope, however, that experts from additional CCD member States would participate. The facilities and data needed for the experiments would be contributed by participating countries on a voluntary basis, and no international funding is foreseen for this experiment. The Ad Hoc Group should work as quickly as possible and present a report to the CCD not later than during the Spring session of 1979. In this context, I must again remind you of the General Assembly resolution in which the three nuclear-weapon States involved in the trilateral talks regarding the CTB are urged to expedite their efforts and to transmit the results to the CCD. In the same resolution, the CCD is requested to take up the matter with the utmost urgency with a view to the submission of a draft treaty to the special session. It is a matter of deep concern to my Government that such multilateral negotiations in the CCD have not yet started.

I will now turn to one important component of a global monitoring system, namely, international data centres, which will be of importance also for practical experiments.

International seismological data centres are principal components of the international co-operative measures considered by the Ad Hoc Group of seismic experts. The essential task of the data centres would be to detect and locate seismic events from reported data and to collect and compile data for event identification. The final assessment of all data relevant to the monitoring of a CTBT should, however, be made by the individual States parties to the treaty.

The international data centres would enable States parties to a CTBT to get easy

access to adequate data and thereby facilitate their active participation in the verification of a treaty. It will be essential that all parties to a CTBT have full confidence in the impartiality and proper functioning of the data centres. Therefore, to ensure a truly international nature of the seismological monitoring system, the data centres should not be established exclusively by the major nuclear countries or their allies.

In a statement earlier in this Spring session, my delegation expressed the preparedness of my Government to take measures to finance, to establish and to operate an international data centre in Sweden, provided that satisfactory arrangements can be made. That centre would be open to personnel from other States to work at the centre either on a permanent basis, as part of the operational staff, or on a temporary basis, to conduct research in connexion with the activity of the centre. Free and easy access would be given to all facilities at the centre.

For practical experiments, as part of the continued work of the Ad Hoc Group, we envisage that at least one data centre would be established and operated on a temporary basis. During the experiments the data centre would process reported data according to procedures worked out by the Ad Hoc Group and redistribute the results to participating countries. To facilitate the practical experiment, Sweden is prepared to set up and operate a temporary data centre for that purpose. We are prepared to put such a temporary data centre into operation in the course of this year, and to carry the associated costs. The Swedish offer regarding a temporary data centre is of course based on the assumption that a CTBT will comprise a monitoring system.

The report of the Ad Hoc Group is the only tangible result that has been achieved by the CCD up to this point of the Spring session. We hope that a decision on a new mandate for the Group can be taken shortly. By taking an active part in the work of the Ad Hoc Group and in the multilateral negotiations which we hope will soon come, members of the CCD would show that they are prepared to carry their responsibilities in the urgent task of achieving the early conclusion of a CTBT.

CCD/PV.779

pp.18-20

Netherlands/Fein

14.3.78

CTB

I should like to refer to the statement made by Mrs. Inga Thorsson, the distinguished representative of Sweden, on 31 January this year. Mrs. Thorsson said:

"It is essential for the viability of a CTBT that verification is carried out with genuine international participation and that all parties to the treaty have full access to all relevant data and information" (CCD/PV.767, p.47).

In our view, all States parties to the treaty should be able to participate in the consultative procedures, and verification must be carried out by the international community as a whole.

From these observations it follows that although my Government considers a CTBT first and foremost to be a contribution to curbing the qualitative nuclear arms race by existing nuclear-weapon States, the treaty must at the same time be so designed as to solicit adherence by as many non-nuclear-weapon States as possible. Only in that case could the treaty also be of substantial value with respect to the non-proliferation of nuclear weapons.

Let me now turn to a specific issue before us: the report of the seismic group. We consider the results of the Ad Hoc Group satisfactory, and in a sense unique. This is the first time that part of an international verification system has been worked out which would primarily apply to nuclear-weapon States. The only other international verification system in existence is the nuclear safeguards system of the International Atomic Energy Agency, but these safeguards are not applied in certain nuclear-weapon States.

On behalf of the Netherlands Government, I should like to thank the seismologists

who participated in the seismic group for their important contribution to the work of the group. In particular, I should like to thank the Chairman of the group, Mr. Ericsson, and the scientific secretary, Mr. Ringdal. They and the other members of the group have brought a very complicated exercise to a satisfactory conclusion.

The report describes what theoretically can be achieved with a seismic system consisting of around fifty seismic observatories of high quality. Data from these stations would be fed into the Global Telecommunication System of the World Meteorological Organization and collected and processed in international data centres. The centres would provide Governments with processed data with respect to seismic events and could provide, if requested, additional information relevant for the identification of a seismic event. The system thus would be an important tool for States to determine whether a seismic disturbance is an earthquake or a clandestine nuclear explosion.

I would like to make a few comments on the three parts of the proposed system: the observatories, the WMO communication network and the data centres.

It is clear from the report that there exists already at present a rather good seismic network in the northern hemisphere. Some stations will need to be improved, and would have to provide data on a daily basis, which would mean additional efforts. However, these problems do not seem unsolvable. In the southern hemisphere, the situation is less satisfactory. The capability of the seismic system in the southern hemisphere is considerably less than in the northern hemisphere. For a viable comprehensive test ban, it seems desirable that the capabilities of the international seismic system in that region should be, in time, brought up to comparable world-wide standards. This would mean that quite an effort will have to be made in the southern hemisphere. In this connexion it may be pointed out that only a few experts from the southern hemisphere participated in the work of the Ad Hoc Group. My Government would hope, therefore, that other countries in or near the southern hemisphere would participate in the further development of the system.

It appears from the report submitted to us that the WMO communication network, mainly used for the exchange of meteorological data, has technically enough excess capacity to handle the extra data provided by the seismic observatories in the system. We might consider in the CCD, however, at what point WMO should be approached to establish co-operation with the parties to the eventual treaty, so that they can use the system for other than meteorological purposes. In consultations with the WMO, we must find out, at an appropriate stage, what kind of arrangements would be suitable.

The third part of the system, the international data centres, was, as I understood, somewhat of a problem for the Ad Hoc Group. Some participants thought it useful to mention already now the possible places for such centres, while others, including our experts, thought it more suitable for the CCD to decide at an appropriate time in the future where seismic data centres should be established. The compromise reached mentions Moscow and Washington as possible centres — both being WMO communication knots — but it is also recognized "that it would be desirable and would be technically feasible to establish international data centres in other places as well". In this respect my Government has taken note with great interest that Sweden has offered, under suitable conditions, to provide and even finance such a centre. My country has taken note with appreciation of that offer.

It is clear from the report that the experts in the Ad Hoc Group have made a somewhat theoretical study. Exchange of information on a routine daily basis is outlined, which was never done before; new types of information must be exchanged; new codes have to be developed to exchange the data over the WMO communication network; communications between stations and the WMO-system have to be tested; procedures have to be developed to process data in the data centres, etc., etc. It is therefore understandable that the Ad Hoc Group sees a need to take further steps to test the

designed system. The delegation of Japan has already mentioned this question several times.

The report makes clear that considerable planning is necessary for such an exercise. The testing of the system and the evaluation thereof would take about a year. Like everyone else, we, too, hope that a comprehensive-test-ban treaty will be concluded during our summer session. We would hope that such a treaty could come into force early next year. It is clear, therefore, that the designed international seismic system cannot be operational when the treaty enters into force, especially if the preparation of these testing phases and the testing itself are in any way delayed. Therefore, we would like to see a decision by the CCD this week to start the planning of such a test. My country supports in this connexion the Swedish proposal for a new mandate for the Ad Hoc Group of seismic experts, as contained in document CCD/562.

In conclusion, I would like to point out that the establishment of an international seismic system could bring additional benefits besides assisting in the verification of a comprehensive nuclear test ban. The system will work fast, which means that within a short time data will be available with respect to earthquakes all over the world. For the United Nations Disaster Relief Office this could be of great importance, for example as a warning system and for the assessment of damage. Also, for scientific reasons, a world-wide system of high quality could be of substantial value. It could potentially help in finding and developing methods for the prediction of earthquakes. The system could also be of use in studying earthquake source processes and lateral inhomogeneities in the earth.

It is the hope of my Government that the valuable work of the Group of Experts can be followed through by this Committee.

CCD/PV.779

pp.24-25

USA/Fisher

14.3.78

CTB

This Ad Hoc Group was formed pursuant to the decision of this Conference of the Committee on Disarmament at its 714th meeting, on 22 July 1976. That decision indicated that the Group should seek to achieve consensus in its report, but pointed out that, whenever consensus could not be achieved, each expert would be entitled to incorporate his own views. The United States considers it significant that the letter of transmittal indicated that there was a consensus and, correspondingly, did not contain any expression of separate views.

Any consensus document, of necessity, involves give-and-take on the part of those participating in its preparation. It is, therefore, probably true that had any individual member of the Ad Hoc Group had sole responsibility for the text, it would have read somewhat differently from the text we have before us. Nevertheless, we are pleased and encouraged to note that experts representing various Governments and with diverse scientific and practical experience in the complicated field of seismology could find the wide area of common opinion described in this report. The fact that members of the Ad Hoc Group were able to do so reflects the serious and conscientious manner in which they handled their task. I am sure that other representatives on this Committee will want to join me in commending the Ad Hoc Group for a job well done.

The report describes various technical aspects of a co-operative exchange of seismic data for the purpose of detecting, locating, and identifying seismic events. The term "identifying", of course, means discriminating between seismic events which are of natural origin and seismic events that are man-made, particularly seismic events produced by nuclear explosions.

This means that the report should be read in the context of a possible comprehensive test ban. This does not mean that the report assesses the adequacy of any system

of exchanging seismic data for the purpose of verifying a comprehensive test ban. The terms of reference of the Ad Hoc Group specifically directed it not to do so. On the other hand, the terms of reference also made it clear that the report should provide analyses concerning international data exchange which could assist Governments in determining whether a comprehensive test ban would be in the interests of their over-all national security.

The report describes in detail the technical and procedural elements of an international network of stations which would continuously and rapidly exchange collected seismic data. It describes new international data centres which would analyse data from all national stations and provide access to all of their facilities designated as international. The role of these centres would be to detect and locate seismic events and to associate with these events reported data relevant to their identification.

The Group of Experts has provided us with a realistic picture of such an international data exchange network by considering existing and planned seismographic stations and equipment either available at those facilities or which could be provided within current technology. A key recommendation of the Group has been the use of the communications capabilities of the World Meteorological Organization.

We must, however, note that the experts caution that implementation of an international data exchange will require changes and improvements in equipment and procedures that may be expensive, and will certainly involve significant modifications to the routine operations executed presently. Further, the capability estimates in the report have been made in all cases on the basis of theoretical analyses and assumptions. These estimates can only be confirmed by experimental studies.

The Group has recommended that an experimental exercise be conducted to test the system it has described. This seems to us, generally, to follow a sound scientific method and, specifically, to be supported by the facts developed in the report. In general, when a new technical concept is introduced it is usually investigated theoretically and the possible advantages from it are set down on paper. The report does this. Then a model is made or a laboratory experiment conducted to see if the theory was correct and to point to any deficiencies in the model. Corrective action may be taken before the new concept is put into general use. The report recommends this.

There are particular reasons why this generally-accepted scientific method should be followed in this case. The report has made an estimate of the capability of various networks to detect and identify seismic events. It has, however, been a theoretical estimate. The actual results to date, based on data obtained from the major international seismic centre now existing, the ISC in the United Kingdom, differ approximately one-half magnitude units from the theoretical predictions made in this report.

For two underground explosions detonated under similar conditions, this difference corresponds to approximately a factor of three in yield. This leads to the conclusion that it would be useful to build on the theoretical estimates contained in the report of the Ad Hoc Group of Experts by conducting an actual experiment involving data exchange and evaluation of the type that this report envisages. For these reasons the United States would be prepared to extend the mandate of the Ad Hoc Group of Experts and would be prepared to join with others in the planning and carrying out of the experimental exercise recommended in the report.

CCD/PV.780 pp.11-12

Italy/di Bernardo

16.3.78

CTB

At a time when both political and technical obstacles continue to hamper or delay the substantial progress towards disarmament being called for by public opinion throughout the world, the conclusions of the work of the Group of Experts on seismology repre-

sent positive and encouraging results that the CCD can submit with some pride to the special session of the United Nations General Assembly devoted to disarmament.

My Government has on many occasions indicated the high priority that it attaches to the conclusion of a comprehensive nuclear-test-ban treaty. It has also emphasized the need to come to an understanding on effective control procedures, without which the ultimate objective of disarmament in security cannot be guaranteed.

Irrespective of the political will, the problem of verification of a treaty banning all nuclear tests has over the years been the stumbling block to any fruitful negotiations in a particularly complex and delicate area which involves an inextricable tangle of scientific, economic and technical aspects that often lend themselves to controversy and to wild assertions.

By calling on a group of eminent scholars from different countries, our Committee has endeavoured to get out of an embarrassing impasse by placing the problem of the detection and identification of seismic events — which means distinguishing between natural events and tremors that are caused by clandestine nuclear weapon tests — on a strictly scientific plane, conducive to thoughtful and impartial conclusions.

The report of the Ad Hoc Group of Experts has the merit of bringing out in a clear light a number of questions fundamental to the solution of the problem of verification of a test ban. This seems to warrant the conclusion that seismology, in the context of an international co-operative endeavour, could usefully contribute to control methods by means of:

(1) systematic improvement of the observations from a network of more than 50 seismological observatories throughout the world; (2) international exchange of the data thus obtained, through the Global Telecommunications System (GTS) of the World Meteorological Organization (WMO); and lastly (3) processing of the data at especially equipped international centres, made available to the participating States.

My Government reserves the right to examine in detail the various proposals contained in the report and, in the first place, when the time comes, the problem of whether the system envisaged is capable of adequately and incontestably ensuring verification of a future comprehensive nuclear-test-ban treaty, which we are awaiting impatiently but whose substantive provisions are not known to us. Moreover, it was not the task of the Group of Experts, as the CCD specified in drawing up its mandate, to resolve this problem, which has obvious political implications.

My delegation nevertheless considers that it would be ill-advised to attach to the Group's study — pending the conclusions of the current negotiations — simply the value of an academic paper. This report contains proposals which have been the subject of a consensus on the part of experts who are highly qualified at the theoretical level; but in view of their novel features, the proposals need testing promptly, in suitable conditions, at the practical level.

It is for this reason that my delegation is very appreciative of the proposal by Sweden to extend the mandate of the Group of Experts for an indefinite period, in order to study the measures required to plan an experimental exercise on the chief elements of the system of international co-operation described in the final report submitted to our Committee. We are ready to discuss the terms of this new mandate in an open spirit of fruitful co-operation. In addition, we carefully note the very kind offer of the Japanese Government, announced in his most recent statement by Ambassador Ogiso, to act as host for the Group of Experts at a later stage of its work.

All these proposals and these steps deserve attention and a constructive response if we are to demonstrate once again that our Committee, despite some difficulties and a certain spirit of disunion which seems to threaten the orderly conduct of our work, is still in a position to assume effectively and with the requisite continuity its great responsibilities in the field of disarmament.

On the basis of clearly specified conditions and assumptions, the report provides theoretical probabilistic estimates of the capabilities of the global network for the detection and location of seismic events, and for obtaining identification parameters. The estimates indicate that capabilities for the detection, location and identification of events are somewhat lower in the southern hemisphere than in the northern hemisphere.

The report also touches on the question of the experimental testing of the international seismic data exchange system.

In view of the fact that the estimates of the capabilities of the global system are based on theoretical calculations, the Group deems it desirable to carry out an experimental exercise for the purpose of testing the system with a view to obtaining more accurate data for estimates and discovering any possible deficiencies of the system. The experimental exercise for the purpose of testing the global system should, in the view of the Group, be carried out in two stages. The first stage would be devoted to work on questions of science and method in relation to the conduct of the experiment. The second stage would be that of carrying out and evaluating the experimental exercise. The Group considers that the first, the preparatory, stage is a very important and crucial element, involving a great deal of work, an element on which the success of the whole exercise depends. According to the Group, not less than six months, and most likely a good deal more than that, will be needed for carrying it out.

When all the members of the Committee have sufficiently studied the Group's report, the Committee will probably be able to take note of it.

Two separate questions still remain to be dealt with, however: the conduct of the experimental exercise for the purpose of testing the global system and the continuation of the work of the Group of Experts.

The Soviet delegation considers it desirable in principle that there should be an experimental exercise, as discussed in the report of the Ad Hoc Group of Scientific Experts on seismology for the purpose of testing the international seismic data exchange system.

It must be remembered in this connexion, however, that the global network of seismographic stations is being set up in connexion with the tasks of verifying compliance with the treaty on the prohibition of nuclear-weapon tests. It is perfectly obvious, therefore, that until the treaty is concluded and until it is known which principal States parties will place their seismographic stations at the disposal of the global network, the experimental exercise cannot in practice be carried out. Thus, the decision whether or not to carry out an experimental exercise for the purpose of testing the future international seismic data exchange system will be taken by the States parties to the treaty. Besides, as was pointed out in today's tripartite statement to the Committee on Disarmament, the guidelines for setting up and running the international seismic exchange should be laid down in an annex to the treaty, and the detailed organizational and procedural arrangements for implementing the international exchange should be worked out after the entry into force of the treaty, drawing on the recommendations contained in the report of the Ad Hoc Group.

At the same time, we believe that it would be useful, even before the treaty is concluded, to start the preparatory work for a possible subsequent experimental exercise for the purpose of testing the international system, and in that connexion to work out the principles of science and method to be applied in the exercise. In our opinion, this task could be undertaken by the ad hoc group we established -- the Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and to Identify Seismic Events. With the presentation of the final report on its work, the Group of Scientific Experts on seismology has completed its task. We might now consider the

possibility of prolonging the Group's work and defining its mandate in terms of the establishment of principles of science and method for a possible experimental exercise for the purpose of testing the international seismic data exchange system.

CCD/PV.781 p.15

Japan/Ogiso

21.3.78

CTB

....However, as the Soviet representative said in another part of his statement.

"Thus, the decision whether or not to carry out an experimental exercise for the purpose of testing the future international seismic data exchange system will be taken by the States parties to the treaty" ... "it would be useful, even before the treaty is concluded, to start the preparatory work for a possible subsequent experimental exercise for the purpose of testing the international system, and in that connexion to work out the principles of science and method to be applied in the exercise".

What I do not fully understand is the position of the Soviet Union concerning the execution of experimental exercises. Here, I should like to draw your attention to the following facts. The final report of the Ad Hoc Group of Scientific Experts on Seismic Events says that, in addition to at least six months for preparatory work, approximately one year would be required for the execution and evaluation of the experimental exercise, and that the objectives of the experimental exercise are mainly to test the over-all functioning of the proposed system and to obtain practical experience and thereby shorten the lead time necessary for the implementation of procedures for the international exchange of seismic data. If the decision to conduct experimental exercises can be taken only after the treaty comes into force, as proposed by the USSR, we will face a situation where the complete verification system will not be able to function until over one year after the entry into force of the treaty. Furthermore, I wish to remind you that the CCD has limited the terms of reference of the Ad Hoc Group in such a way that the Group cannot assess the adequacy of the proposed system for verifying a CTB. Therefore, a particular system can be assessed by the parties to the treaty only after its entry into force, and it is obvious that the experimental exercise will rather prepare the necessary data for working out the detailed organizational and procedural arrangements for implementing the international exchange of seismic data later on.

I wish to reiterate my real concern over this situation, as compliance with the future CTB will not be adequately verified until a year after the treaty comes into force.

CCD/PV.782 pp.9-10

Canada/Jay

28.3.78

CTB

We note with satisfaction the progress achieved so far by the United States of America, the United Kingdom and the USSR in their negotiations to remove the areas of disagreement which have blocked progress for so long. The efforts of the CCD have also made an important contribution to this task. One of the most vexing problems has been to provide for verification measures that would ensure an effective CTB. Since the 1960s, when Canada, along with some other members, started exploring the possibility of utilizing teleseismic means and the international seismic data exchange concept, it has become widely recognized that such means have an important role to play in a multi-lateral CTBT.

Now we have before us the report of the Ad Hoc Group on seismic data exchange. We welcome this report as the fruit of two years of diligent technical work pursued in a

spirit of co-operation from all quarters, and we fully support it. The report indicates that a network for the exchange of seismic data is technically feasible.

We must now address ourselves to what useful further work might be pursued by the Ad Hoc Group in coming months. While we would not wish to prejudge the multilateral negotiations, we are confident in this connexion that those concerned will agree that teleseismic means will be a basic monitoring tool. We, therefore, see an important role that an international exchange of seismic data can play, and we see the need to create and develop a network for such an exchange under the treaty. The CTBT is meant to be a multilateral treaty, but it is quite evident that not all nations have an equal capacity to monitor seismic events by teleseismic means. There is a role for such a network and exchange system in putting all parties to the treaty on an equivalent footing, in terms of the availability of seismic data to interpret such events at the national level. Through this co-operative process, a higher level of international confidence could be maintained in the treaty.

Therefore, it seems to my delegation that the Ad Hoc Group's most pressing task must be to make broad participation in an eventual network possible by preparing the ground in advance. This task can best be accomplished by having the Ad Hoc Group develop the technical guidelines and procedures required for participating seismic nations, so as to make the resulting data of a uniformly high standard. A second task which in our view the Ad Hoc Group can immediately address, is delineation of the operational procedures for the international data centre or centres, identified in the Ad Hoc Group's report as essential to the successful operation of the network.

The Ad Hoc Group's report points out what further work is required up to the actual creation and operation of a network in this context of the successful negotiation of a CTB. We see merit in the CCD recognizing these requirements, including the conducting of experimental exercise and tests and assigning the Ad Hoc Group, at this stage, the initial tasks I have outlined above.

CCD/PV.783 pp.21-23

Netherlands/Fein

30.3.78

IDO

Some years ago my delegation proposed the establishment of an international disarmament organ, in the first instance meant to assist in the implementation of a chemical weapons ban. The proposal is described in documents CCD/PV.617 and CCD/410 of July 1973. In that same year, Sweden also voiced ideas with respect to an international disarmament organization. The response to those ideas were at that time -- to put it mildly -- lukewarm.

My Government, however, considers that times have changed. Indeed, several countries -- including Italy -- have recently shown an interest in a disarmament organization. First of all, we are approaching -- we hope -- the conclusion of a number of important disarmament treaties which require rather elaborate permanent consultative machinery between parties and entail substantial implementation and verification tasks. Only one such multilateral treaty exists at the moment -- the non-proliferation Treaty. However, when that Treaty was concluded, an organization existed which could take upon itself the necessary verification functions: the International Atomic Energy Agency. No such organization exists with respect to, for example, a chemical weapons ban or a nuclear test ban.

My Government considers that an international disarmament organization could be given the necessary functions to implement such treaties and to provide a framework for consultations between parties to the agreements involved. Such an organization could also be entrusted with the task of organizing the review conferences provided for in disarmament treaties. When such an organization is in existence and more and more

experience is obtained, more appropriate functions could be entrusted to it.

In this connexion, we must also look farther into the future. We will achieve more and more measures in the field of disarmament. It would be most important to have an impartial body -- for example, under United Nations auspices -- which could look to the implementation of such agreements. In this connexion, I should make special reference to the French proposal to establish an international observation satellite agency. We have carefully noted this proposal, which contains some interesting ideas, and we share the premise from which it starts, namely, that the present situation in which only two countries possess the means to observe the globe is undesirable, certainly when such observation is instrumental in the verification of multilateral disarmament treaties. Internationalization of satellite information seems, certainly in the long run, essential.

We also consider, however, that observation satellites cannot provide all the answers to verification. We only have to think of the NPT, a possible chemical weapons ban or an underground test ban to make that problem clear. Verification is also often a combination of different methods, certainly in the CW field. In our opinion, the French proposal could be combined with our idea of an international organization, combining all kinds of implementation functions.

The paper that the Netherlands has submitted is rather self-explanatory, so I shall not elaborate on it. I only would like to make clear that we realize, of course, that much careful consideration is still necessary before an international decision can be taken to establish such a disarmament organization. Therefore, my Government only makes a very modest proposal to the special session of the General Assembly, i.e., that the Secretary-General of the United Nations should seek the views of United Nations Member States on the possible functions and structure of such an organization. If the answers warrant any further steps, a special committee or the CCD could be entrusted with the task of working out the modalities of the organization. The next special session of the General Assembly could then perhaps, if all goes well, take a decision on the actual establishment of the agency.

CCD/PV.783

pp.33-34

Sweden/Thorsson

30.3.78

CTB

The adequate verification of a CTBT is a question to which the Swedish delegation always has paid particular attention. We therefore note with satisfaction that the tripartite statement makes clear that the three parties share the widely-held view that an international exchange of seismic data will play a major role in verifying compliance with a CTBT. With the same satisfaction we heard that the three nuclear-weapon States share our view that all parties to the treaty should have equal right to participate and to receive seismic data provided by the international data exchange. The Swedish delegation considers the report of the Ad Hoc Group of seismological experts (CCD/558) to be a most valuable contribution to the efforts to establish a system for such international data exchange. The report is, however, to a considerable extent based on theoretical considerations. The next obvious step is to obtain practical experience on how components of such a system should be arranged in practice. From the discussion on the subject in the Conference, we concluded that the members of the CCD in principle agree that the seismic Group should continue its work under a new mandate, and to that effect the Swedish delegation tabled a draft proposal for such a mandate (CCD/562). We expect a decision to be taken in the immediate future so that the Group can resume its work at the beginning of our summer session. I emphasize this, as we have noted that several representatives have expressed their full support of our proposal for a new mandate, i.e. Egypt, the Federal Republic of Germany, Japan, Italy, the Netherlands, the United Kingdom, the United States and Canada. While in principle accepting the desir-

ability of experimental testing, the Soviet representative said that "the decision on whether to conduct such testing should be taken by the parties to the treaty". This would mean, as was stressed by Ambassador Ogiso last week, that the treaty would lack its main instrument of verification for at least one year. We share the concern expressed by the Japanese delegation in this regard.

The further work of the seismic Group could be carried out in two distinct phases. The first would be the preparation for the experimental exercise and the second the experiment itself. After the completion of the preparatory work, i.e. the first phase, the CCD should consider the desirability of carrying out the actual experimental exercise.

CCD/PV.783 p.42

Mongolia/Erdembileg

30.3.78

CTB

We entirely agree with the view that an international exchange of seismic data will play a major role in verification of compliance with the proposed treaty. We believe that the Ad Hoc Group of Scientific Experts established by the Committee to consider international co-operative measures to detect and to identify seismic events has done some useful work. The Group prepared and unanimously adopted a report of which the Committee on Disarmament has taken note. The Mongolian delegation would like to commend the Ad Hoc Group and its Chairman, Mr. Ericsson, on the work accomplished.

I should like to refer to just one point in the Ad Hoc Group's report -- the proposal concerning an experimental exercise to test the international system for the exchange of seismic data.

In principle, we are in favour of an experimental exercise to test and evaluate unproven elements of the co-operative system and to identify any deficiencies in the system. In the opinion of the experts, the successful conduct of an experimental exercise would need careful planning and detailed specifications for its elements. As the report indicates, this first stage will require a minimum of six months, and perhaps longer. The second stage -- the full-scale exercise itself -- would require a further period of about one year.

With regard to the first stage, our delegation considers it wise to start the preparatory work for the experimental exercise before the conclusion of a treaty in order to ensure adequate advance preparation, and to draw up scientific and methodological guidelines for the exercise, as proposed by the Soviet delegation.

This work the Committee could entrust to the Ad Hoc Group of Scientific Experts and prolong its mandate accordingly.

With regard to the second stage -- the actual conduct of the exercise -- our position is dictated primarily by the ultimate objective of international co-operation in the detection and identification of seismic events, namely, verification of compliance with a treaty prohibiting nuclear-weapon tests.

As such a treaty has yet to be concluded and the identity of the parties to it determined, it is impossible to decide in advance the competence of the parties themselves. It is in that light that our delegation interprets the reference in the tripartite statement to the agreement of the participants that the detailed organizational and procedural arrangements for implementing the international exchange should be worked out after the entry into force of the treaty.

CCD/PV.784 p.11

Italy/di Bernardo

25.4.78

IVO

Lastly, verification machinery. The Italian Government has always been of the opinion that it is impossible to consider disarmament measures -- disarmament, as we

understand it, with security -- without effective international control.

The problem of control has so far been resolved by specific measures and ad hoc arrangements for every agreement concluded and every commitment undertaken. Experience has nevertheless shown us that it would be desirable to reconsider this problem as a whole with a view to tackling it and, if possible, solving it by reference to uniform and coherent criteria in an appropriate international context.

New proposals on this question have recently been made by certain countries in this Committee and in other bodies. My Government has given very careful attention to the working paper submitted by the Netherlands on 30 March 1978 under the symbol CCD/565. We believe that it contains ideas which should be closely examined, discussed and developed.

The Italian Government is of the opinion that consideration should be given as soon as possible to the establishment, within the framework of the United Nations, of an international verification organ to supervise, at the technical level and from the legal standpoint, the implementation of agreements relating to arms control and disarmament. In order to fulfil its mandate, the organ in question should be able to employ all the most recent techniques afforded by science and technology which would help to ensure strict, objective and effective international control.

CCD/PV.785 pp.8-9

Sweden/Norberg

27.4.78

CW

The Swedish position regarding the scope and verification of a CW convention was last stated on 23 August 1977 (CCD/PV.764). Since no single effective, non-intrusive verification method had appeared at that time, the Swedish delegation pointed to the need to find and explore additional ideas. Attention was called to the fact that the acquisition of chemical agents, weapons and delivery systems is not the only decisive factor when it comes to acquiring an offensive chemical-warfare capability. Equally and perhaps more important are the necessary training, planning and organization for operational use of these weapons. It was suggested that identifying such preparatory measures would constitute a necessary and probably effective method for the verification of a chemical convention. Therefore we feel that not only development, production and stockpiling of the weapons, but also other preparations for offensive chemical warfare must be prohibited.

As a further contribution to the discussion concerning possible verification methods as well as other methods for strengthening confidence between the parties to a treaty, the Swedish delegation would like to draw attention to a suggestion made ten years ago by the former leader of the Swedish delegation to the CCD, Minister of State Mrs. Alva Myrdal.

Mrs. Myrdal pointed out the potential value of collecting, systematizing and disseminating information contained in the scientific and technical literature (ENDC/PV.391, 20 August 1968). This method has also been discussed at informal meetings with chemical experts at the Conference of the Committee on Disarmament.

Scanning appropriate literature manually is a time-consuming task. Work of this kind demands a wide coverage of journals and other open sources. However, there is today an increasingly large number of abstracts publications which facilitate access to the world literature within a special subject. Many of these abstracts publications appear also on magnetic tapes and are available for direct computer scanning. This facilitates further following of the literature within a desired field. It therefore seemed worth-while to investigate suitable means and methods for utilizing such data-based abstracts publications and evaluate their possible applicability in connexion with a chemical weapons treaty.

The Swedish delegation tables today a working paper (CCD/569) containing a summary of a methodological investigation of computerized scanning of chemical literature which has been carried out by Swedish experts. The aims of the investigation, the method used and the main results obtained are described in the working paper. It appears from the study that large savings with respect to manpower could be made. The number of literature references which it is necessary to evaluate can, for instance, be diminished to between 1 and 4 per cent of the total, using the types of search strategies formulated for the purpose of the investigation. It was also calculated that the likelihood of retrieving a relevant item by means of this method exceeded 80 per cent. The material studied exceeded 150,000 references to scientific and technical articles. It seems possible to improve the method and also to apply it to several more data bases. The method should of course be looked upon as one of many possible approaches to the problem of searching the enormous amount of published literature for pertinent information.

CCD/PV.788 pp.6-7

USSR/Likhatchev

9.5.78

CW

The distinguished members of the Committee on Disarmament are well aware that the delegations of the USSR and the United States are conducting negotiations on the elaboration of a joint initiative on the prohibition of chemical weapons for submission to the Committee. Today I have the honour to announce, on behalf of the two delegations, a joint USSR-United States statement to the Committee on Disarmament on the state of these negotiations.

The United States and the Soviet Union believe that the future convention on the prohibition of chemical weapons should meet the objective of complete, effective, and verifiable prohibition of the development, production and stockpiling of chemical weapons, and also provide for the destruction of chemical weapons. Discussions of measures relating to means of production of chemical munitions and chemicals covered by the convention are continuing.

Progress has been achieved in the area of the scope of the prohibition. As a result of accommodation by both sides, agreement in principle has now emerged on most, although not all, points in this area. Both sides share the opinion of the majority of CCD members that the principal criterion in determining the scope of the prohibition should be the general purpose criterion. Under that criterion, specific chemicals would be prohibited to the extent they have no justification for industrial research or other non-hostile civilian purposes, for non-hostile military purposes, in particular for protective purposes, or for military purposes not related to chemical warfare. Both sides have also reached the view that, for the purpose of facilitating verification, it would be appropriate to use two toxicity criteria and certain other provisions in addition to the general purpose criterion.

The United States and the Soviet Union are in agreement that the convention should contain provisions clearly specifying the procedure for declaring chemical weapons stockpiles. Some specific provisions of such a procedure have been agreed upon in principle. Both sides agree that States parties to the future convention should also make declarations relating to the means of production of chemical munitions and chemicals covered by the convention, but the actual content of such declarations is under continued negotiation. Provisions relating to measures concerning those means of production also require further negotiation.

The United States and the Soviet Union believe that the fulfilment of the obligations assumed under the future convention should be subject to the important requirement of

adequate verification. They share the view that arrangements for such verification should be based on a combination of national and international arrangements, including the creation of a consultative committee. Some arrangements and procedures have been agreed upon in this area, but no agreement has yet been reached on certain important issues, including specific methods of verifying the destruction of chemical weapon stocks and measures relating to means of production of chemical munitions and chemicals covered by the convention.

CCD/PV.801

pp.22-26

Japan/Ogiso

17.8.78

CTB, C-O, CW

On the question of CTB, it is important that, in addition to the political decisions by the nuclear-weapon States on CTB, an international seismological data exchange system, as well as national means including the mutually agreed establishment of "black boxes", should be promptly established. This would be one of the means used to verify objectively whether or not obligations under CTBT, based upon such political decisions, are fully complied with.

By having sent experts to the CCD's meetings at the Ad Hoc Group of Experts on seismic events since its first meeting, my country has made positive contributions to the work of this Group. As often stated, my delegation believes it necessary to conduct without delay experimental exercises to complete the seismological data exchange system. According to the report of the Ad Hoc Group (CCD/558, 9 March 1978), in addition to at least six months for preparatory work, approximately one year would be required for the execution and evaluation of the experimental exercise. It is therefore imperative for the successful conclusion of a CTB treaty and for its implementation that the work of the Ad Hoc Group should be transmitted without delay to the new negotiating body.

At any rate, whether or not a CTB treaty can be achieved at an early date depends solely upon the political will of the nuclear-weapon States parties to the trilateral negotiations — the Governments of the United States, the Soviet Union, and the United Kingdom. My delegation would like to request that these three parties to the negotiations should make the utmost effort to present to the CCD the results of the current trilateral negotiations on CTB. Such a request is touched on in paragraph 51 of the Final Document of the special session and has also been mentioned at the current session of the CCD by a number of representatives, including those of the Group of 15. My delegation appreciates the considerable efforts made by the parties to the trilateral negotiations; but if the conclusions of the trilateral negotiations are not ready for the current session, but will be ready some time this autumn, my delegation is ready to participate in the negotiations in the CCD at any time.

In the progress report of the trilateral negotiations of 8 August, the distinguished representative of the United Kingdom, on behalf of the three parties, made it clear that the treaty should establish a ban on any nuclear weapon test explosion in any environment, that the provisions of a protocol would apply to nuclear explosions for peaceful purposes, and that, after a certain period, the parties to the treaty would wish to review its operation. In this connexion, my delegation would like to recall that it proposed in the CCD on 2 March 1978 that the following should be provided for in the said treaty; "Any State Party to the Treaty shall not conduct any nuclear explosions for peaceful purposes unless agreement is reached on appropriate international supervision and procedures which will ensure that no weapons testing can be carried out under the guise of nuclear explosions for peaceful purposes" and "The State Parties to this Treaty shall undertake to continue, in good faith, negotiations on the appropriate international supervision and procedures referred to above, and shall make a periodic review of their

achievements" (CCD/PV.776).

2. Cut-off of the production of nuclear fissionable materials for weapon purposes

Another realistic step to be considered by the CCD in arresting the nuclear arms race would be the cut-off of the production of nuclear fissionable materials for weapon purposes. Japan has promoted this idea ever since 1969. I should like to take this opportunity to urge the nuclear-weapon States to halt the production of nuclear fissionable materials for weapon purposes as the first step towards the cessation of the production of nuclear weapons to be undertaken by the nuclear-weapon States in the near future. I also urge the United States and the Soviet Union to start, promptly, exploratory talks on this question. In order to assure compliance with such measures, the nuclear-weapon States should accept International Atomic Energy Agency safeguards similar to those which are applied to the non-nuclear-weapon States under the Nuclear Non-Proliferation Treaty and other international agreements.

II. Ban on chemical weapons (CWB)

Next, my delegation would like to make a statement on the question of banning chemical weapons, to which priority is given in the field of non-nuclear disarmament.

There are many kinds of chemical weapons, all of which are weapons of mass destruction. A country that reaches a certain level in its chemical industry and technology is able to produce chemical weapons relatively easily, cheaply and secretly on any scale it likes. As there are countries which have incorporated chemical weapons in their weapons systems since World War I, no agreement has been made during the past ten years of deliberations at the CCD, though a consensus has been reached about the necessity of a treaty banning chemical weapons.

My delegation understands that the pending issues of the CWB question are: (1) the scope of chemical warfare agents to be banned, and (2) verification.

With regard to the scope of chemical warfare agents to be banned, my delegation, which frequently presents working documents to the CCD (CCD/420, 483, 515 and 529), has made efforts to make the scope of agents to be banned as clear as possible by listing those agents to be banned.

Judging from the recent deliberations of the CCD and the progress report of 5 May 1978 on the United States-USSR CW negotiations, the following appear to be the main thoughts on how the question of banning chemical weapons should be treated.

1. All chemical warfare agents to be banned should be divided into three categories, namely (a) "single-purpose agents" -- used solely for warfare purposes; (b) "dual-purpose agents" -- used for both warfare and peaceful purposes, and (c) the precursors.
2. Those chemical warfare agents to be banned should be all lethal chemical agents, including incapacitating agents. Their scope should be specified by a general-purpose criterion supplemented by a toxicity criterion.
3. The agents to be banned should include precursors and should exclude agents for riot control, such as tear gases.
4. The enumeration of chemical warfare agents to be banned cannot be exhaustive, but it is desirable that they should be amply illustrated in a positive or a negative list.
5. All lethal chemical warfare agents should be banned, both as regards their production and stockpiling. The destruction of existing stockpiles in arsenals should be carried out step by step.
6. Any CW treaty should not obtrude upon chemical industry activities for peaceful purposes.

As for verification, the issues pending are:

1. Verification of procedures for destroying CW stockpiles.
2. Ensuring that a closed CW production factory is not reopened.

It may, however, be observed that detailed technical problems on verification remain unsolved, but according to the wording documents which have been presented by many

countries they are not essential, but rather of a technical nature.

In view of the fact mentioned above, it is quite natural for us to assume that there is general agreement on the basic key elements in the CW negotiations currently being conducted between the United States and the Soviet Union. So it is difficult to understand why they have been unable to report to the CCD so far their general agreement on the key elements, beside technical details. Moreover, since the threshold to be applied to chemical agents to be banned and verification procedures for dual-purpose agents involve technical, specialized and complicated problems, each country is concerned over the strong possibility that such verification procedures may obtrude upon its chemical industries for peaceful uses, and therefore needs to conduct detailed examinations in relation to national laws and regulations. Hence, even after the United States-USSR joint initiative is presented to the negotiating body, sufficient time will be needed to examine it.



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