CONFERENCE ON DISARMAMENT

CHEMICAL WEAPONS

WORKING PAPERS

1990 SESSION

WP
VOLUME
I

COMPILED AND EDITED BY:

ARMS CONTROL AND DISARMAMENT DIVISION OF

EXTERNAL AFFAIRS AND INTERNATIONAL TRADE CANADA

OTTAWA, CANADA

JANUARY 1991

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PREFACE

WP

VOLUME I

This set of two volumes covers official documents (working papers) relating to Chemical Weapons submitted in plenary to the Conference on Disarmament during its 1990 session. It is compiled to facilitate discussions and research on this issue.

Volume I includes CD/958 to CD/998; Volume II includes CD/999 to CD/1040.

Note that the index is a chronological listing while the documents themselves are arranged in numerical order by CD number.

CHEMICAL WEAPONS WORKING PAPERS SUBMITTED TO CD 1990 CHRONOLOGICAL INDEX

1990

Serial	Reference	Country	Description	Date
460	CD/958	Egypt	Report on the national trial inspection	23.1.90
461	CD/959 [EXTRACT]	UN Secretary-General	Letter dated 26 January 1990 from the Secretary-General of the United Nations addressed to the President of the Conference on Disarmament transmitting the resolutions and decisions on disarmament adopted by the General Assembly at its forty-fourth session	31.1.90
462	CD/960 CD/CW/ WP.274	France	Second national trial inspection	1.2.90
463	CD/961	AHCCW	Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 16 January to 1 February 1990	1.2.90
464	CD/966 CD/CW/ WP.275	USSR	Experimental challenge inspection at a military installation	14.2.90
465	CD/968	CD	Decision on the re-establishment of the Ad Hoc Committee on Chemical Weapons	15.2.90
466	CD/969 CD/CW/ WP.277	Hungary	Provision of data relevant to the Chemical Weapons Convention	19.2.90

Serial	Reference	Country	Description	Date
467	CD/970	Libya	Letter dated 16 February 1990 from the Charge d'Affaires of the Libyan Arab Jamahiriya addressed to the President of the Conference on Disarmament transmitting a statement issued by the People's Committee for Foreign Liaison and International Cooperation in Tripoli on 13 February 1990	20.2.90
468	CD/971	Austria	Letter dated 15 February 1990 from the Permanent Representative of Austria addressed to the Secretary-General of the Conference on Disarmament transmitting a document containing additional information on Austrian production data relevant to the future Chemical Weapons Convention	15.2.90
469	CD/972	Austria	Letter dated 12 February 1990 from the Permanent Representative of Austria addressed to the Secretary-General of the Conference on Disarmament transmitting an aide memoire on the Austrian offer to host the Organization for the Prohibition of Chemical Weapons in Vienna	21.20.90

Serial	Reference	Country	Description	Date
470	CD/973	USA	Letter dated 20 February 1990 from the Representative of the United States of America addressed to the President of the Conference on Disarmament transmitting documents from the Wyoming and Moscow Meetings between the United States Secretary of State James A. Baker, III and Union of Soviet Socialist Republic Foreign Minister Eduard A. Shevard-nadze	23.2.90
471	CD/974	USSR	Letter dated 20 February 1990 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting documents from the Wyoming and Moscow Meetings between the Union of Soviet Socialist Republics Foreign Minister Eduard A. Shevardnadze and United States Secretary of State James A. Baker, III	23.2.90
472	CD/975 CD/CW/ WP.278	FRG	Report on a trial challenge inspection	9.3.90
473	CD/980	Czecho-slovakia	List of experts and laboratories for examination and analyses in the event of an investigation of reports of possible use of chemical, bacteriological (biological) or toxin weapons	27.3.90
474	CD/982	Yugo-slavia	Report on the national trial inspection	30.3.90

Serial	Reference	Country	Description	Date
475	CD/983 CD/CW/ WP.283	FRG	Report on the second trial inspection (challenge inspection) in the Federal Republic of Germany	5.4.90
476	CD/984 CD/CW/ WP.284	FRG	Ad Hoc verification: the establishment of national registers	10.4.90
477	CD/985 CD/CW/ WP.289	Poland	Provision of data relevant to the Chemical Weapons Convention	17.4.90
478	CD/987 CD/CW/ WP.290	Canada	National trial inspection at a single small-scale facility	19.4.90
479	CD/988/ CD/CW/ WP.291	India	Letter dated 19 April 1990 from the Permanent Mission of India addressed to the Secretary-General of the Conference on Disarmament transmitting a document entitled "Report of the national trial inspection conducted by India"	20.4.90
480	CD/989	Egypt	Letter dated 19 April 1990 from the Permanent Representative of Egypt addressed to the President of the Conference on Disarmament transmitting a letter addressed to the Secretary-General of the United Nations from Dr. Ahmed Esmat Abdel Meguid, Deputy Prime Minister and Minister of Foreign Affairs of Egypt, concerning the establishment of a zone free from weapons of mass destruction in the Middle East and President Hosni Mubarak's statement in this regard	20.4.90

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481	CD/991	Denmark	Letter dated 23 April 1990 from the Permanent Mission of Denmark addressed to the secretariat of the Conference on Disarmament transmitting documentation concerning multilateral data exchange prior to the signing of a chemical weapons convention	25.4.90
482	CD/992	Canada	Letter dated 23 April 1990 from the Deputy Permanent Representative of Canada addressed to the Secretary-General of the Conference on Disarmament transmitting compendia on chemical weapons comprising plenary statements and working papers from the 1989 session of the Conference on Disarmament	25.4.90
483	CD/993	Canada	Letter dated 23 April 1990 from the Deputy Permanent Representative of Canada addressed to the Secretary-General of the Conference on Disarmament transmitting a report entitled "Verification methods, handling and assessment of unusual events in relation to allegations of the use of novel chemical warfare agents"	26.4.90
484	CD/994	Canada	Letter dated 23 April 1990 from the Deputy Permanent Representative of Canada addressed to the Secretary-General of the Conference on Disarmament transmitting a document entitled "Role and function of a national authority in the implementation of a chemical weapons convention"	30.4.90

Serial	Reference	Country	Description	Date
485	CD/996 CD/CW/ WP.292	GDR	Report on a trial challenge inspection in a chemical industry plant	12.6.90
486	CD/997 CD/CW/ WP.293	GDR	Inspection methodology for challenge inspections in industrial chemical plants	12.6.90
487	CD/998 CD/CW/ WP.294	GDR	Application of trace analysis to exploit memory effects in challenge inspections	12.6.90
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488	CD/999 CD/CW/ WP.295	Austria	Report on a national trial inspection	12.6.90
489	CD/1000	USSR	Letter dated 12 June 1990 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting the text of the agreement between the Union of Soviet Socialist Republics and the United States of America on destruction and non-production of chemical weapons and on measures to facilitate the multilateral convention on banning chemical weapons, the agreed statement in connection with this agreement and the USSR-US joint statement on non-proliferation	12.6.90

Serial	Reference	Country	Description	Date
490	CD/1001	USA	Letter dated 12 June 1990 from the Acting Representative of the United States of America addressed to the President of the Conference on Disarmament transmitting the text of the agreement between the United States of America and the Union of Soviet Socialist Republics on the destruction and non-production of chemical weapons and on measures to facilitate the multilateral convention on banning chemical weapons, the agreed statement in connection with this agreement and the US-USSR joint statement on non-proliferation	12.6.90
491	CD/1006 [EXTRACT]	UK	Letter dated 19 June 1990 from the Representative of the United Kingdom of Great Britain and Northern Ireland addressed to the Secretary-General of the Conference on Disarmament transmitting a document adopted at the ministerial meeting of the North Atlantic Council at Turnberry, United Kingdom, on 7 and 8 June 1990	20.6.90
492	CD/1008 CD/CW/ WP.298	Norway	Use of sorbent extraction in verification of alleged use of chemical weapons	26.6.90

Serial	Reference	Country	Description	Date
493	CD/1009	Finland	Letter dated 4 July 1990 from the Permanent Representative of Finland addressed to the Secretary-General of the Conference on Disarmamant transmitting the latest volume of the Blue Book series on Verification of Chemical Disarmament, entitled "International Inter-laboratory Comparison (Round-Robin) Test, F.1 Testing of Existing Procedures"	5.7.90
494	CD/1012 CD/CW/ WP.304	UK	Verification of the Chemical Weapons Convention: practice challenge inspections of government facilities: analysis of results	11.7.90
495	CD/1014/ Rev.1 CD/CW/ WP.305/ Rev.1	Romania	Data relevant to the chemical weapons convention	16.7.90
496	CD/1017	Bulgaria	Submission of data in connection with the convention on the prohibition of chemical weapons	19.7.90
497	CD/1018 CD/CW/ WP.307	Nether-lands	Report on a trial challenge inspection	19.7.90
498	CD/1019	Norway	Letter dated 20 July 1990 from the Charge d'Affaires a.i. of Norway addressed to the President of the Conference on Disarmament transmitting a research report entitled "Use of sorbent extraction in verification of alleged use of chemical warfare agents: Part IX"	23.7.90

Serial	Reference	Country	Description	Date
499	CD/1020 CD/CW/ WP.310	GDR	Report on a trial challenge inspection	26.7.90
500	CD/1021 CD/CW/ WP.311	Czecho-slovakia	Report on a trial challenge inspection at a chemical facility	26.7.90
501	CD/1022 CD/CW/ WP.312	Czecho-slovakia	Report on a trial challenge inspection at a military facility	26.7.90
502	CD/1023 [EXTRACT]	FRG	Letter dated 25 July 1990 from the Representative of the Federal Republic of Germany addressed to the Secretary-General of the Conference on Disarmament transmitting a document entitled "Results of the Inter-Parliamentary Conference on Disarmament"	27.7.90
503	CD/1024 CD/CW/ WP.313	Peru	New article of a convention on chemical weapons relating to the environment	31.7.90
504	CD/1025 CD/CW/ WP.314	Peru	Proposal for the inclusion in the Chemical Weapons Convention of an Article on "Duration"	31.7.90
505	CD/1026 CD/CW/ WP.315	FRG	Chemical Weapons Verification Workshop, Munster, 14-15 June 1990	3.8.90
506	CD/1029 CD/CW/ WP.318	France	Report on a trial challenge inspection	8.8.90
507	CD/1030/ Rev.1 CD/CW/ WP.319/ Rev.1	Canada	Report on a national trial inspection	8.8.90
508	CD/1031 CD/CW/ WP.320	PRC	Fundamental position and propositions on challenge inspection	10.8.90

Serial	Reference	Country	Description	Date
509	CD/1033	AHCCW	Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament	10.8.90
510	CD/1040 CD/CW/ WP.321	Iran	National trial inspection	31.8.90

CONFERENCE ON DISARMAMENT

CD/958
23 January 1990

ENGLISH
Original: ARABIC

Ad hoc Committee on Chemical Weapons

EGYPT

Report on the National Trial Inspection

Introduction

1. Egypt conducted a national trial inspection (NTI) at one of its chemical plants in order to contribute to the success of international efforts aimed at a total ban on chemical weapons and the destruction of the stocks of such weapons, pursuant to the proposal of the Ad hoc Committee at its summer session in 1988.

2. It should be noted that Egypt neither possesses nor produces chemical weapons. The plant under inspection is fully capable of producing chemical weapons of all kinds, and the Egyptian delegation is ready to discuss this trial with other delegations at the Conference on Disarmament with a view to improving procedures for genuine routine inspection.

Preparations

3. The inspectors undertook to protect the confidentiality of technical information on production processes at the plant under trial inspection.

Objectives of the national trial inspection (NTI)

4. The principal objective of inspection was to verify the following:

(a) Whether data on the production and processing of the chemical substance to be inspected were consistent with the records;

(b) That the facility was not being used to produce any chemical listed in schedules [1] or [2];

(c) That the reaction could not be stopped at a specific stage with a view to producing another chemical listed in schedules [1] or [2].

The degree of realism of the NTI

5. In order to ensure the realistic and positive nature of the NTI, the following steps were taken:

(a) The facility to be inspected was notified of the time of the NTI only a short time before the start of the inspection;

(b) The inspection team was present at all times from the start of operation of the unit to be inspected until the information of the final product;

(c) The inspection team consulted the documents and records concerning the product under inspection in order to verify their consistency with the actual production.

Selection of the inspection team

6. The political, scientific and technical authorities were keen to make this trial a success. Therefore, it was essential that the inspection team should include a specialist in the chemical industries with practical experience in this field, the technical expert representing the Egyptian delegation during the drafting of the convention on chemical weapons, and a representative of the Egyptian Ministry of Foreign Affairs familiar with this subject. It was necessary to seek the help of some of the facility's personnel especially for the conduct of analyses under the supervision and control of the inspection team.

Selection of the facility

7. A multi-purpose facility in a chemical company belonging to the Ministry of Industry was selected for the conduct of the NTI. This facility is used basically for the production of limited quantities of various chemical products not included among the substances listed in schedules [1] and [2].

8. A multi-purpose unit was chosen to ensure the monitoring of the production stages from the start of the production process until the formation of the final product.

Selection of the chemical substance

9. Sodium toluene sulphonate (STS) was selected, although this substance is not included among substances listed in the chemical schedules annexed to the convention. However, for purposes of inspection and verification, it was regarded as being among the substances included in the draft convention.

The confidentiality of the NTI

10. In order to ensure the confidentiality of the information and data provided by the company to be inspected, it was agreed that the following conditions would be observed:

(a) Confidential business documents and technical records and information would be consulted only at the premises of the facility;

(b) As far as possible, only data stripped of information that might help to transfer the production technology to competing companies would be consulted;

(c) The inspection team would consist of Egyptian citizens only.

The conduct of the NTI

11. The NTI was conducted in accordance with the procedures laid down in document CD/213 as follows:

(a) Initial visit

The inspection team visited the plant to be inspected and met the responsible officials with a view to:

(i) Clarifying the objectives of the convention on the total prohibition of chemical weapons;

(ii) Determining the steps to be taken before, during and after the NTI in order to ensure its success;

(iii) Reaching agreement on the protection of the confidentiality of information and the manner in which it should be handled during the NTI;

(iv) Defining methods for the taking and analysis of samples;

(v) Listening to a complete explanation of the stages of the production of the chemical substance under inspection;

(vi) Designating the company's escort team;

(vii) Obtaining from the company an initial declaration containing information concerning the company, the chemicals produced in the multi-purpose unit to be inspected, and the quantities of the chemical substance under inspection that were produced during the year preceding the inspection;

(viii) It was agreed with the responsible officials at the plant that the time of commencement of the inspection would coincide with the date set for the commencement of production of a batch of the substance STS;

(ix) The company provided specific information concerning the facility and the chemical processes to be inspected.

(b) Conduct of the actual inspection

The inspection was conducted in accordance with article VI (2). The purpose of this type of inspection, known as "routine inspection", is to verify whether the actual production processes and the utilization of the facility correspond to the description in the declaration.

(c) Activity at the facility during the inspection

The inspection took place while the STS was being produced and stored. The inspectors were able to observe visually the most important operations in the production of this substance.

(d) Composition of the inspection team

The inspection team was made up as follows:

(i) A chemical expert representing the Ministry of Industry, Chemical Industries Sector;

(ii) A chemical expert, representing the Ministry of Defence;

(iii) A representative of the Ministry of Foreign Affairs;

(iv) The director of the company's research department;

(v) The production manager of the multi-purpose unit.

(e) Inspection equipment

The facility provided the inspection equipment (sampling and safety equipment). The use of safety equipment was obligatory in accordance with the safety regulations at the facility (safety goggles, masks, hard hats).

(f) Duration of inspection and initial visit

(i) Initial visit 1/2 day

(ii) Inspection 1 1/2 days

12. General description of the production process

(a) The multi-purpose unit at the facility under inspection produces 600-800 tonnes of the chemicals needed for the production process. The unit operates in accordance with a batch system. The inspection was carried out while the unit was producing STS.

(b) Toluene was transferred from tank "V-102" to the reaction vessel "R-101", where oleum was added to it from one of the two vessels "V-107" and "V-108". The sulphonation process was then carried out.

(c) The substance produced, which is an intermediate product, was poured into the vessel "V-105", where neutralization took place using sodium hydroxide, which resulted in the formation of the final product, which was pumped into the vessel "V-201".

(d) The product was then dried in order to assume its final form.

(e) A difference of 1/2 tonne (loss) in the quantity of toluene was observed on comparing the theoretical calculations with the actual measurements. The reasons for this were:

(i) The reaction does not take place to the extent of 100 per cent, resulting in a loss of 8.9 per cent.

(ii) A loss of 1.1 per cent is incurred during the neutralization and transportation processes.

Conclusion

The theoretical calculations correspond to the actual production, if the above-mentioned considerations are taken into account.

Samples and sample-taking procedures

13. A member of the facility personnel took the samples required by the inspectors as follows:

(a) Samples from the contents of the reactor, the tanks and the vessels connected with the reactor.

(b) Samples from the raw feedstock used for the production of STS.

(c) Random samples of the product STS.

(d) Samples from effluents at different points in the facility.

Sample handling and analysis

14. Each sample was recorded in a record book, allocated a code number, labelled and then opened in the facility's laboratory. Analysis was conducted by the facility's personnel in the presence of the inspectors. Simple descriptive methods for qualitative and quantitative analysis were applied, using the primitive analytical equipment available in the laboratory. No off-site analyses were carried out. All the results obtained confirmed the correctness of the chemical process at all its stages up to the formation of the final product.

Evaluation by the inspectors

15. The evaluation carried out by the inspectors included:

(a) The problems encountered;

(b) The usefulness of the inspection;

(c) The conclusions that could be drawn concerning the activities at the facility.

Closing conference

16. At the closing conference, the inspectors reviewed their on-site activities and their conclusions. The conference lasted about one hour.

The effect of inspection on the operations of the facility

17. The NTI had no noticeable effect on the operation of the plant. However, without the full co-operation between the facility personnel and the inspection team, the inspection would have impeded or even halted some of the operations. Moreover, the costs of inspection, in regard to the time taken and the efforts made by the facility personnel in the preparation of the initial declaration and their participation in the conduct of the NTI, must also be taken into consideration.

Conclusions and matters to be discussed further in regard to verification on a routine basis

18. In the course of the NTI, it became clear that several provisions of the draft convention concerning verification inspection on a routine basis require further discussion.

(a) Concerning multi-purpose facilities

How is it possible to determine the number, intensity, duration and timing of a verification inspection on a routine basis if the production process of the declared schedule [2] substance:

(i) can be shifted from one multi-purpose facility to another;

(ii) operates in batch mode;

(iii) is discontinuous by reason of factors relating to supply and demand?

Is there any means, other than checking mass balance at a subsequent inspection, to ascertain whether a declared activity has been carried out in the multi-purpose facility in the interval between inspections or during the inspection itself?

(b) Concerning the consultation of confidential information and protection of confidentiality

How is it possible to ensure that the inspectors respect the confidentiality of the information to which they have access and that they refrain from leaking it to competing companies?

To what extent would the inspected facility be entitled to take legal action in the event of the disclosure of its industrial secrets and, in such a case, who would be liable for the loss suffered by the facility?

(c) Concerning the inspection procedures themselves

It is well known that the process of producing a complete batch may take several days. Would it be necessary for the inspectors to monitor and observe the entire process?

To what extent would a company under inspection be required to bear the financial costs of the inspection?

The inspector cannot verify the correctness of the declaration concerning the production of the chemical substance without having access to the data concerning the chemical process and the standard operating procedures, which increases the degree of intrusiveness of the routine inspection of the facility.

The inspector cannot determine the necessity and timing of inspections and samplings if he is uncertain about the precise timing of the production batch and the stages of the production process, which increases the degree of intrusiveness of the routine inspection of the facility.

CONFERENCE ON DISARMAMENT

CD/959
31 January 1990

Original: ENGLISH

(Extract)

LETTER DATED 26 JANUARY 1990 FROM THE SECRETARY-GENERAL OF THE UNITED NATIONS ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE RESOLUTIONS AND DECISIONS ON DISARMAMENT ADOPTED BY THE GENERAL ASSENBLY AT ITS FORTY-FOURTH SESSION

I have the honour to transmit herewith the texts of the resolutions adopted by the General Assembly at its forty-fourth session, which entrust specific responsibilities to the Conference on Disarmament in 1990. The relevant provisions of those resolutions are reproduced in the Annex.

For the information of the Conference, you will also find attached the texts of other resolutions and decisions, dealing with or related to disarmament matters, which were adopted by the General Assembly at its forty-fourth session.

(Signed) Javier Pérez de Cuéllar

GE.90-60050/5126A

(7) In resolution 44/115 A, operative paragraph 1 notes with satisfaction the work of the Conference on Disarmament during its 1989 session regarding the prohibition of chemical weapons, and, in particular, appreciates the progress in the work of its Ad hoc Committee on Chemical Weapons on that question and the tangible results recorded in its report; operative paragraph 3 again urges the Conference on Disarmament, as a matter of high priority, to intensify, during its 1990 session, which will be of pivotal importance, the negotiations on a convention and to reinforce its efforts further by, inter alia, increasing the time that it devotes to such negotiations, taking into account all existing proposals and future initiatives, with a view to the final elaboration of a convention at the earliest possible date, and to re-establish its Ad hoc Committee on Chemical Weapons for that purpose with the mandate to be agreed upon by the Conference at the beginning of its 1990 session; and operative paragraph 4 requests the Conference on Disarmament to use the political momentum generated by the Conference of States Parties to the 1925 Geneva Protocol and other Interested States and the recognition by that Conference that a global ban on chemical weapons is of universal concern and interest, to achieve the conclusion at the earliest possible date of such a convention; and operative paragraph 5 also requests the Conference on Disarmament to report to the General Assembly at its forty-fifth session on the results of its negotiations.

(8) In resolution 44/115 B operative paragraph 3 urges the Conference on Disarmament to pursue as a matter of continuing urgency its negotiations on a convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction.

UNITED NATIONS

A

General Assembly

Distr.
GENERAL

A/RES/44/115
12 January 1990

Forty-fourth session
Agenda item 62

RESOLUTIONS ADOPTED BY THE GENERAL ASSEMBLY

[on the report of the First Committee (A/44/784)]

44/115. Chemical and bateriological (biological) weapons

A

Chemical and bacteriological (biological) weapons

The General Assembly,

Recalling its previous resolutions relating to the complete and effective prohibition of the development, production and stockpiling of all chemical weapons and to their destruction,

Reaffirming the urgent necessity, particularly following recent United Nations reports, of strict observance by all States of the principles and objectives of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, 1/

Welcoming the broad participation in and the positive results of the Conference of States Parties to the 1925 Geneva Protocol and other Interested States on the prohibition of chemical weapons, held in Paris from 7 to 11 January 1989, and noting with satisfaction the resulting additional accession of States to the 1925 Protocol,

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1/ League of Nations, Treaty Series, vol. XCIV (1929), No. 2138.

Endorsing the Final Declaration of the Paris Conference 2/ as an important contribution to the aim of the total elimination of chemical weapons,

Recognizing that the effectiveness of a convention for the prohibition of the development, production, stockpiling and use of chemical weapons and for their destruction will benefit from the support and co-operation of the chemical industry,

Commending, in that regard, the initiative of the Government of Australia to strengthen and expand the co-operation of the chemical industry with Governments 3/ by convening at Canberra from 18 to 22 September 1989 a Government-Industry Conference against Chemical Weapons,

Reaffirming the urgent necessity of the adherence by all States to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed in London, Moscow and Washington on 10 April 1972, 4/

Taking note of the Final Document of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, adopted by consensus on 26 September 1986, 5/ and, in particular, of article IX of the Final Declaration of the Conference, 6/

Having considered the report of the Conference on Disarmament, 7/ which incorporates, inter alia, the report of its Ad Hoc Committee on Chemical Weapons, 8/ and noting that, following the precedents set over the past five years, consultations are continuing during the inter-sessional period, thus increasing the time devoted to negotiation,

Convinced of the necessity that all efforts be exerted for the continuation and successful conclusion of negotiations on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction,

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2/ A/44/88, annex.

3/ See A/C.1/44/4 and A/C.1/44/5.

4/ Resolution 2826 (XXVI), annex.

5/ BWC/CONF.II/13.

6/ BWC/CONF.II/13, part II.

7/ Official Records of the General Assembly, Forty-fourth Session, Supplement No. 27 (A/44/27).

8/ Ibid., para. 87.

Emphasizing the importance of the widest possible participation of States in the negotiations on the draft convention in order to ensure universal adherence on its conclusion,

Conscious of the need to share data relevant to the negotiations on a future convention banning all chemical weapons on a global basis and of the fact that the provision of such data would be an important confidence-building measure,

Noting the bilateral and other discussions, including the ongoing exchange of views between the Union of Soviet Socialist Republics and the United States of America in the framework of the multilateral negotiations, on issues related to the prohibition of chemical weapons,

Noting with appreciation the efforts made at all levels by States to facilitate the earliest conclusion of a convention for the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction and, in particular, the concrete steps designed to promote confidence and to contribute directly to that goal,

1. Notes with satisfaction the work of the Conference on Disarmament during its 1989 session regarding the prohibition of chemical weapons, and, in particular, appreciates the progress in the work of its Ad Hoc Committee on Chemical Weapons on that question and the tangible results recorded in its report;

2. Notes, while regretting that a convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction has not yet been concluded, that there exists an ever-growing will to resolve the pending problems at the earliest possible date;

3. Again urges the Conference on Disarmament, as a matter of high priority, to intensify, during its 1990 session, which will be of pivotal importance, the negotiations on such a convention and to reinforce its efforts further by, inter alia, increasing the time that it devotes to such negotiations, taking into account all existing proposals and future initiatives, with a view to the final elaboration of a convention at the earliest possible date, and to re-establish its Ad Hoc Committee on Chemical Weapons for that purpose with the mandate to be agreed upon by the Conference at the beginning of its 1990 session;

4. Requests the Conference on Disarmament to use the political momentum generated by the Conference of States Parties to the 1925 Geneva Protocol and other Interested States and the recognition by that Conference that a global ban on chemical weapons is of universal concern and interest, to achieve the conclusion at the earliest possible date of such a convention;

5. Also requests the Conference on Disarmament to report to the General Assembly at its forty-fifth session on the results of its negotiations;

6. Calls upon all States to abide by the commitments undertaken in the Final Declaration of the Paris Conference;

7. Welcomes the renewed declarations of commitment by Governments represented at the Government-Industry Conference against Chemical Weapons to conclude and implement a convention at the earliest possible date, and welcomes also the first collective statement by representatives of the chemical industry of their commitment to co-operate with Governments to that end; 9/

8. Recognizes that constructive proposals were discussed at the Government-Industry Conference against Chemical Weapons that could contribute momentum to the Geneva negotiations and assist in the conclusion and early implementation of such a convention;

9. Recognizes also the importance of declarations made by States on whether or not they possess chemical weapons and of further international exchanges of data in connection with the negotiations on such a convention;

10. Encourages Member States to take further initiatives to promote confidence and openness in the negotiations and to provide further information to facilitate prompt resolution of outstanding issues, thus contributing to an early agreement on, and universal adherence to, such a convention.

81st plenary meeting
15 December 1989

B

Chemical and bacteriological (biological) weapons: measures to uphold the authority of the 1925 Geneva Protocol and to support the conclusion of a chemical weapons convention

The General Assembly,

Recalling its previous resolutions, and those adopted by the Security Council, on the use of chemical weapons,

Recalling also the provisions of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, 1/ and of other rules and principles of international humanitarian law applicable in armed conflict,

Welcoming in that regard the reaffirmation in the Final Declaration of the Conference of States Parties to the 1925 Geneva Protocol and other Interested States, 2/ held in Paris from 7 to 11 January 1989, of the importance and the continuing validity of the 1925 Protocol,

Recalling further the necessity of the adherence by all States to the Convention on the Prohibition of the Development, Production and Stockpiling of

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9/ A/C.1/44/4, annex II.

Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed in London, Moscow and Washington on 10 April 1972, 4/

Expressing deep dismay at the use and the risk of use of chemical weapons as long as such weapons remain and are spread,

Acknowledging that prompt and impartial investigation of reports of possible use of chemical and bacteriological weapons will further enhance the authority of the 1925 Geneva Protocol,

Taking note of the report of the Secretary-General 10/ on the proposals of the group of qualified experts established in pursuance of General Assembly resolution 42/37 C of 30 November 1987, concerning technical guidelines and procedures available to the Secretary-General for the timely and efficient investigation of reports of the possible use of chemical and bacteriological (biological) or toxin weapons,

Noting that, upon conclusion of a chemical weapons convention, these guidelines and procedures should be adapted in the light of the obligations under the convention,

1. Renews its call to all States to observe strictly the principles and objectives of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, and condemns vigorously all actions that violate that obligation;

2. Calls upon all States that have not yet done so to accede to the 1925 Geneva Protocol;

3. Urges the Conference on Disarmament to pursue as a matter of continuing urgency its negotiations on a convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction;

4. Requests the Secretary-General to carry out promptly investigations in response to reports that may be brought to his attention by any Member State concerning the possible use of chemical and bacteriological (biological) or toxin weapons that may constitute a violation of the 1925 Geneva Protocol or other relevant rules of customary international law in order to ascertain the facts of the matter, and to report promptly the results of any such investigation to all Member States;

5. Welcomes, in that regard, the proposals of the group of qualified experts concerning technical guidelines and procedures to guide the Secretary-General in the conduct of timely and efficient investigation of the reports of use of chemical and bacteriological (biological) or toxin weapons; 11/

10/ A/44/561 and Add.1 and 2.

11/ A/44/561, annex.

6. Calls upon all States to consider the implementation of those guidelines and procedures for investigation, inter alia, by putting at the disposal of the Secretary-General qualified experts and/or consultants as well as laboratories for analysis;

7. Notes with satisfaction that the Security Council decided to consider immediately, taking into account the investigations of the Secretary-General, appropriate and effective measures in accordance with the Charter of the United Nations; 12/

8. Urges all States to exercise restraint and to act responsibly in accordance with the need for the early conclusion and entry into force of a convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction;

9. Decides to include in the provisional agenda of its forty-fifth session the item entitled "Chemical and bacteriological (biological) weapons".

81st plenary meeting
15 December 1989

C

Implementation of the recommendations of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

The General Assembly,

Recalling its resolution 2826 (XXVI) of 16 December 1971, in which it commended the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 4/

Recalling also that the Second Review Conference of States Parties to the Convention was held at Geneva from 8 to 26 September 1986 in order to review the operation of the Convention with a view to assuring that the purposes of the preamble to and the provisions of the Convention, including the provisions concerning negotiations on chemical weapons, were being realized,

Taking note of the confidence-building measures agreed upon by the Second Review Conference for further strengthening the authority of the Convention and for enhancing confidence among States,

---

12/ Security Council resolution 620 (1988).

Acknowledging that the Final Declaration of the Second Review Conference 6/ expressed the need to give further consideration to, inter alia, the implementation of the Convention in all its aspects,

Confirming the common interest in strengthening the authority and the effectiveness of the Convention to promote confidence and co-operation among Member States as well as the necessity to comply with the obligations set forth in the Convention,

1. Notes with appreciation that, in accordance with the Final Declaration of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, an Ad Hoc Meeting of Scientific and Technical Experts from States parties to the Convention was held at Geneva from 31 March to 15 April 1987, which adopted by consensus a report 13/ finalizing the modalities for the exchange of information and data agreed to in the Final Declaration, thus enabling States parties to follow a standardized procedure;

2. Calls upon all States parties to the Convention to provide such information and data to the Secretary-General on an annual basis and not later than 15 April;

3. Requests the Secretary-General to render the necessary assistance and to provide such services as may be required for the implementation of the relevant parts of the Final Declaration;

4. Notes that the Second Review Conference decided, in its Final Declaration, that a Third Review Conference should be held at Geneva at the request of a majority of States parties not later than 1991;

5. Recalls in that regard the decision that the Third Review Conference should consider, inter alia, the issues set out in article XII of the Final Declaration of the Second Review Conference;

6. Also requests the Secretary-General to circulate to the States parties to the Convention not later than four months prior to the convening of the Third Review Conference a report on the implementation of the confidence-building measures agreed upon by the Ad Hoc Meeting of Scientific and Technical Experts from States parties;

7. Welcomes the fact that there are more than one hundred States parties to the Convention, including all the permanent members of the Security Council, and that since the holding of the Second Review Conference four more States have forwarded their instruments of ratification of the Convention, two more States have declared their accession to the Convention and one State has withdrawn its reservations to it;

13/ BWC/CONF.II/EX/2.

8. Calls upon all States that have not ratified or acceded to the Convention to do so without delay, thus contributing to the achievement of universal adherence to the Convention and to the strengthening of international confidence.

81st plenary meeting
15 December 1989

CONFERENCE ON DISARMAMENT

CD/960
CD/CW/WP.274
1 February 1990

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FRANCE

SECOND NATIONAL TRIAL INSPECTION

I. INTRODUCTION

At the summer session in 1988, the Ad hoc Committee on Chemical Weapons proposed that States participating in the negotiations should conduct national trial inspections for the purpose of determining whether the verification provisions contained in the "rolling text" made it possible to ascertain that chemical industry facilities subject to declaration were not being used for prohibited purposes.

An initial trial inspection carried out in France in March 1989 was reported on in document CD/913 (CD/CW/WP.240), dated 11 April 1989, the conclusions whereof are reproduced below (see annex). A second inspection of the same kind was found necessary to confirm and refine those conclusions.

The present report describes the course of, and the lessons drawn from, that new exercise.

II. SUMMARY DESCRIPTION

1. Type of inspection

This second national trial inspection was carried out at a multi-purpose industrial site in accordance with the provisions of article VI of the current "rolling text" of the convention (CD/952, of 18 August 1989). Its purpose was to verify, by means of the routine systematic on-site inspection procedure, that the initial and annual declarations concerning a schedule [2] chemical corresponded to the output of the workshops concerned and that the chemical was not being used or diverted for prohibited purposes.

2. Type of facility

The inspection took place in a specific facility comprising two shops, one of which was multi-purpose. This facility comprises part of a medium-sized industrial site that engages in other chemical manufacturing operations using the same raw materials as the manufacturing activity inspected.

3. Type of chemical

The chemical in question belongs neither in schedule [1] nor in schedule [2]. It was chosen on the basis of the following three criteria:

Its manufacture involves widely used techniques similar to those used to make schedule [2] chemicals;

It undergoes partial processing at the facility. As the by-product so obtained has characteristics close to those of the chemical from which it derives, the decision was taken that it too should be subjected to inspection;

Several manufacturing processes are or have been employed: the situation at the time of the initial declaration was that the chemical and the by-product were made in the two specific shops concerned by the inspection, one of which operated continuously and the other in batch mode, and that one of the two substances was made in another shop, as a by-product of another manufacturing process that was not subject to declaration. That other manufacturing process had been definitively halted by the time of the annual declaration and the inspection.

It should be added that the manufacture of these two products requires the same raw materials stored on-site as other manufacturing activities, and that it consumes only a small proportion of them.

4. Composition of the inspection team

The inspection team was composed of three chemistry specialists, one of whom had already participated in the first trial national inspection:

A university-trained inspector of facilities classified for environmental protection purposes;

A chemical engineer, doctor of science and specialist in organic synthesis, belonging to a research centre;

An engineer from the chemical industry with long experience in research, development and production.

The same team carried out the initial visit.

An ad hoc national authority, observers from various ministries or civil service departments, a representative of the Union of Chemical Industries and representatives of the company owning the facility, participated in the whole of the exercise.

5. Implementation of the inspection procedure

The routine inspection procedure was implemented in accordance with the provisions of annex 2 to article VI of the current draft convention.

(a) Declarations

Pursuant to those provisions, the company's head office gave all the information that was to be included in the initial and annual declarations to the ad hoc national authority, which transmitted it to the inspection team.

The company declared that it was unable to answer with certainty the question whether the facility could be used to produce a schedule [1] chemical.

(b) Initial visit

This lasted four half-days spread over three days, from 10 to 12 October 1989.

(c) Notification of inspection

The ad hoc national authority gave the company 48 hours notice of the inspection.

(d) Inspection

The inspection was carried out on 8 and 9 November 1989 and lasted two half-days.

III. EVALUATION

1. Initial and annual declarations

Generally speaking, the relevant provisions of annex 2 to article VI proved well suited to the requirements of the inspection.

The company management supplied the information required to be given in the initial and annual declarations, making a distinction between:

Confidential information (for example, manufacturing and raw material storage capacities, output levels, details of employment and of sales by country for 1988, not including the names of customers and economic data);

Other information (for example, identification and physico-chemical characteristics of the products, general information on their uses, principles of the manufacturing processes employed, product specifications, marketing documents, safety instructions and documents for general distribution describing the industrial site).

The question arose of how precise the information contained in the initial and annual declarations should be in order to ensure that the initial visit and the inspection achieved their purpose and safeguard the principle of confidentiality.

For this reason, it seemed clear that the final drafting of the declarations should be the subject of close dialogue between the national authority and the industry before they were despatched to the international technical secretariat.

2. Initial visit

The initial visit lasted four half-days, divided up as follows:

Two half-days for familiarization with the site, during which the management provided information on the factory as a whole. The inspectors visited the facilities and collected information on the workshops and on the processes for manufacturing the products in question;

Two half-days for exchanges of view between the team of inspectors, the ad hoc national authority, the representatives of the manufacturer and the observers. These exchanges made it possible to spell out the main points of the specific facility agreement.

The initial visit constitutes a first contact of vital importance, for it enables the inspectors to familiarize themselves with the facilities subject to verification and thereby, in agreement with the national authority and the manufacturer, to determine the nature and the limits of the information needed for the performance of their task. For example, on the occasion of the visit to the factory's laboratory the inspectors were able to assess the types of analysis they would be able to carry out there.

In addition, a survey of the raw material stores showed that, in the absence of specific metering instruments which provided clear identification of the uses of raw materials for the manufacture of the products in question, as distinct from their other uses on the site, the inspectors would need access to certain accounting documents and materials records concerning products not subject to inspection.

Among the conclusions drawn on the occasion of the initial visit, mention should be made of the following:

The value of the international organization's drawing up terms of reference for the initial visit, based, perhaps, on pre-established guidelines, so as to define more clearly the rights and obligations of each of the parties;

The decisive role of the use of accounting documents both in the preparations for and in the conduct of the inspection. In this respect, the participants expressed doubts about the meaningfulness of a routine inspection conducted without access to accounting documents; in cases of double book-keeping; or where some or all of these documents are not presented.

They wondered whether it would be worth while including in the convention a provision whereby States parties would oblige companies manufacturing products subject to verification to adopt a standardized materials and utility management system.

(a) Duration

For one product and one by-product that are obtained by a relatively simple process, as was the case here, two days' work seems to be the minimum required for the compilation of a reference dossier and the drawing up of a specific facility agreement.

Should the chemical process be more complex, it would probably be necessary to provide for a longer initial visit.

(b) Specific facility agreement

The specific facility agreement was drafted after the initial visit on the basis of the facility attachment found in the "rolling text", which seemed to fit the case. A more detailed statement should, however, be made therein of the rights of the inspection team, especially as regards examination of the equipment in the facilities concerned.

Generally speaking, it is clear that the specific agreement will have to be very detailed and state unambiguously the services the inspectors will be entitled to expect and the constraints to which they will have to submit, particularly as regards:

Arrangements for travel within the site;

Opportunities for taking and analysing samples;

The rules of confidentiality (cf. paras. 2 (c) and 4).

(c) Confidentiality

In advance of this exercise the company requested all the participants who did not belong to its staff to sign a personal undertaking to respect the confidentiality of the information collected during the initial visit and the inspection.

This exercise reconfirms the need:

To limit the communication of information in strict accordance with the "need to know";

To define as precisely as possible the nature of the information that can be taken out of the facility without detriment to the interests of the enterprise.

3. Drawing up and content of the inspection mandate and the notification of inspection

The inspection mandate was drawn up on the basis of the relevant provisions of article VI of the draft convention. It contained the following information:

The address of the site containing the facility subject to verification;

The composition of the inspection team;

The purpose of the mission, defined as follows:

(a) Verification of:

The non-production by the designated facilities of products in schedule [1];

Consistency with the initial and annual declarations;

The non-diversion of the products in question for purposes prohibited by the convention;

(b) The drafting of a report indicating whether the relevant provisions of the convention are being observed;

A restatement of the modalities of the inspection in the light of the specific agreement relating to the facilities concerned;

A description of the role of the national authority in the process.

The notification of inspection was communicated, with two working days' advance notice, to:

The head office of the company operating the site;

The management of the site.

The period of notice was felt to be sufficient in the case in question.

The notification indicated the dates of arrival and departure and the composition of the inspection team.

These two documents were, intentionally, concisely worded. It was not felt necessary to mention in the notification the rights and duties of the inspectors or the characteristics of the inspection, since those matters had already been dealt with in the specific facility agreement and in the inspection mandate.

4. Inspection

(a) Opening conference

In view of the brevity of the interval between the initial visit and the inspection proper, it was not felt necessary to hold a very detailed opening conference, especially as the composition of the team of inspectors had not been changed.

The national authority, whose presence was deemed indispensable, reiterated the objective of the inspection, read out the specific facility agreement and stressed the need to respect the confidentiality of information that would be accessible.

The inspectors described their mandate, presented their air sampling equipment and described how the inspection would be carried out.

The management of the site handed over to the inspectors the reference dossier compiled on the occasion of the initial visit and indicated:

The safety and security rules in force on the site;

The areas that would be accessible in the context of the inspection;

The site staff who were authorized to communicate with the inspectors;

The rules the inspectors would have to observe when communicating with persons outside the site, and when taking notes.

(b) Escort and visit

In accordance with the specific facility agreement and the inspection mandate:

A designated representative of the company permanently accompanied the inspection team, which availed itself, as necessary, of the technical assistance provided by the management of the site;

The inspection team had access only to the facilities for manufacturing and storing the products concerned, and to certain buildings such as the conference room, the analytical laboratory and the sick-bay (see para. 4 (c));

The inspection team was unable to move about on the site outside a previously determined itinerary.

(c) Records: planned for, useful or necessary

The inspectors had at their disposal:

The accounting records and operating returns for the declared products only;

The sales records for the declared products;

The maintenance records for the facility;

The operating logs for the facility.

In view of the confidentiality of this information, the above documents could not be taken away from the site; that was also the case for the notebooks on the basis of which the inspectors drew up their report. The information that was not essential for the purposes of the inspection - for example, on customers, purchase prices of raw materials and sales prices of finished products - had been concealed in the accounting records.

However, in the absence of apparatus for measuring the consumption of the raw materials used both in the facility inspected and in other manufacturing shops on the site, the manufacturer furnished, on request, a number of

accounting vouchers concerning the various other uses of the raw materials. In the context of a normal routine inspection conducted on the basis of the current "rolling text", such information might not have been provided, especially as some of the other uses relate to a subsidiary in which the company owning the inspected site does not have a majority holding.

In the case studied, one of the raw materials being common to the manufacture of several other substances in larger amounts, the normal imprecision in the measurement of mass flows could have led to considerable uncertainty as to the quantity of that raw material actually used for the manufacturing operation inspected. In that event, the possibility of deliberately under-evaluated production could not have been ruled out. In fact, the uncertainty was dispelled by means of a check of the uses of the other raw materials employed in the process.

The question arises, therefore, whether such complementary or indirect checks will always be possible. On a more complex site, for example, where other raw materials too might have had multiple uses, the uncertainty could not have been dispelled, unless the inspectors had had access to documents that are normally unavailable for the inspection.

Another question that arose was whether, bearing in mind the principle of medical secrecy, the inspectors should be granted the right to visit the site sick-bay and consult the treatment records. Such a visit might also have enabled them to verify the existence of special medical equipment.

(d) Inspection of areas, equipment and operation procedures

The inspectors went into each of the manufacturing shops and into the storage areas connected with the facility. They were able to establish, thanks in particular to photographs taken with an instant camera during the initial visit and kept on the site, that no change had apparently been made to any part of the facility.

They did not judge the facility to be technically suited to the manufacture of products listed in schedule [1], for the following reasons:

The safety equipment is not adequate for that purpose;

Access to the shops is not controlled;

One of the shops is in the open air.

These remarks only apply, of course, to the facility described in the specific agreement.

At the request of the inspection team, the site officials took samples of products at the sampling points normally used for industrial monitoring. These samples were analysed in the presence of an inspector by the staff employed in the site laboratory and compared with a reference sample brought by the team of inspectors.

With a view to ascertaining that schedule [1] chemicals were not being made, the inspectors had provided themselves with a CW agent detection kit and air sampling equipment.

(e) Analysis of chemical samples and air samples

The requests made by the inspectors for analysis of the samples by the site laboratory could be fulfilled only subject to the following limitations:

Available gaps in the laboratory's schedule of work;

Use of the analytical methodology customarily used by the laboratory;

Use only of the equipment available on the spot, which is designed solely for regular and customary checks on production.

The CW agent detection kit, which as far as sensitivity is concerned is designed for battlefield conditions, proved unsuited to the needs of inspection in an industrial environment.

The site management gave its agreement for off-site analysis of the air samples, on condition that the results were communicated to it. The analysis carried out off-site did not reveal the presence in the facility of any product listed in schedule [1].

It would be helpful if a duplicate of each of the samples was kept under seal on the site so that a second evaluation could be undertaken if necessary.

(f) Inspectors' report

The detailed technical report drawn up by the inspectors was kept on the site in readiness for a possible subsequent inspection. The report intended for the international technical secretariat merely referred to consistency with the initial and annual declarations and compliance with the convention.

(g) Closing conference

A closing conference was held at the end of the inspection. The participants examined the detailed technical report and commented on the course of the exercise and on the conclusions to be drawn from it.

(h) Difficulties arising during the inspection

The inspection revealed no irregularities. It did, however, show that as verification procedures and monitoring techniques now stand, it was not always possible to gain an accurate idea of the limits of this type of inspection and so assess its effectiveness.

The reliability of the inspection depends to a large degree on:

The quality and credibility of the accounting documents supplied to the inspectors;

The suitability of the detection and identification equipment for an industrial environment;

The restrictions imposed on the inspectors' movements during the initial visit and during the inspection.

(i) Duration

Two half-days sufficed for the inspection because of the small size of the facility and the simplicity of the process used to manufacture the products in question.

As a general rule, it seems difficult to foresee the duration of inspections, particularly prior to the initial visit. The duration will depend above all on the complexity of the manufacturing process that is subject to verification. Account must also be taken of the constraints imposed by the manufacturer.

5. TECHNICAL FACILITIES FOR THE INSPECTION

(a) Preparation of a technical dossier on the chemicals involved

Ideally, scientific and technical documentation on the chemical or chemicals subject to verification will already have been made available to the inspection team. This documentation might be prepared by the technical secretariat following the initial declaration, drawing on appropriate data bases.

(b) Development of mobile analytical equipment

Using only the laboratory facilities available at the site may prove less than truly satisfactory, since it would mean restricting the inspection on the basis of the scientific equipment existing on the spot, which may be very limited in the case of small sites.

Bearing in mind the restrictions mentioned above (cf. II.4(e)) regarding the use of the analytical laboratory on the industrial site, it would appear desirable to investigate the idea of appropriate mobile equipment, standardized and acceptable to the chemical industry, designed to detect and identify chemicals on schedules [1] and [2], and complying with applicable security standards on the inspected sites.

6. IMPACT AND COSTS OF THE INSPECTION PROCESS

For the company the cost of the routine inspection was FF 100,000, based on the following company evaluation:

Two persons full-time (engineer-hours) for the duration of the initial visit and the inspection;

Analyses (two only in the present case);

Collating of various documents;

Travel for one person from company headquarters to the site on the occasion of the initial visit and the inspection.

For the ad hoc national authority, observers included, the cost is of the same order.

No production losses were observed during the inspection. The costs to be borne by the company would clearly be much greater if the inspection required a halt or a reduction in production, which was not the case during this inspection.

* * *

CONCLUSIONS

The conclusions drawn from this second trial inspection may be summarized as follows:

1. The régime of systematic routine on-site inspections is worth while only in so far as it allows checks of the accuracy of the declarations made by industry through the national authority. In this it contains a dissuasive element which should be invoked with care. However, it may be of limited effectiveness in practice, depending in particular on the reliability and the nature of the information or data supplied.

2. Preservation of confidentiality is vital - in particular the most confidential information collected during the initial visit and the inspection must be kept on the inspected site, and the information supplied must be strictly limited in accordance with the need to know.

3. The national authority is called upon to play a major role at all stages in the verification process (declarations, initial visit, inspection, etc.). Specifically, for the purposes of the initial declaration it must help the manufacturer to determine whether schedule [1] chemicals may be manufactured on the site.

4. A detailed initial visit to the facility is of decisive importance for the proper conduct of the inspection. As far as possible, the subsequent inspection should be carried out by the same team of inspectors.

5. Plants manufacturing schedule [2] chemicals should be placed under a clear obligation to use a standardized materials and utility management system.

6. There is a need to study and then develop detection, identification and measurement equipment which is reliable and specifically adapted for inspection in an industrial environment, in the form of mobile laboratories where appropriate.

7. The composition of the inspection team is of great importance. In particular, the availability of a wide range of expertise will be conducive to effective verification. Nevertheless, the team responsible for verification should be limited to a reasonable number of inspectors, if only for security reasons.

ANNEX

Extract from CD/913 - CD/CW/WP.240 of 11 April 1989

IV. CONCLUSIONS

1. It is essential to prepare a standard multilingual glossary, particularly for technical terms.

2. The specific agreement for the facility is vital for facilitating inspections. It is determined by the standard of the initial visit. It includes confidential elements to be kept within the plant.

3. Analytical accounting records of operations are an essential item of information in the inspection. Consequently, efforts should be made to ensure that all the facilities subject to inspection are in a position to provide such records.

4. In selecting and training the inspectors, account should be taken of the substantial differences which can exist in the structure of production systems from one country to another.

5. The very delicate question of parallel clandestine production on the same site, but in a separate location from the facility subject to monitoring, was not dealt with in this trial inspection, but should be given special in-depth consideration.

* * *

Finally, it seems clear that a single trial inspection is not sufficient to take stock of the many problems posed by the holding of a routine inspection, and a further national trial inspection is to be held.

CONFERENCE ON DISARMAMENT

CD/961
1 February 1990

Original: ENGLISH

Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 16 January to 1 February 1990

I. INTRODUCTION

1. In accordance with the decision taken by the Conference on Disarmament at its 531st plenary meeting held on 31 August 1989, the Ad Hoc Committee on Chemical Weapons resumed its work on 16 January 1990 under the Chairmanship of Ambassador Pierre Morel (France). Mr. Abdelkader Bensmail, Senior Political Affairs Officer of the Department for Disarmament Affairs, continued to serve as Secretary of the Committee, assisted by Mr. Michael Cassandra and Ms. Agnès Marcaillou, Political Affairs Officers of the Department for Disarmament Affairs.

2. The Ad Hoc Committee held four meetings from 16 January to 1 February 1990. In accordance with the recommendation of the Ad Hoc Committee, as contained in its Report to the Conference on Disarmament (CD/952), open-ended consultations of the Ad Hoc Committee were held between 28 November and 14 December 1989 in preparation for the resumed session.

3. The representatives of the following States not members of the Conference participated in the work of the Ad Hoc Committee: Austria, Bangladesh, Chile, Denmark, Democratic People's Republic of Korea, Ghana, Greece, Finland, Ireland, Iraq, Jordan, Libyan Arab Jamahiriya, New Zealand, Norway, Oman, Portugal, Qatar, Republic of Korea, Senegal, Spain, Syrian Arab Republic, Switzerland, Tunisia, Turkey, Viet Nam and Zimbabwe.

II. SUBSTANTIVE WORK DURING THE RESUMED SESSION

4. In accordance with its mandate, the Ad Hoc Committee continued its work on the Convention. In particular, it considered the following issues in the framework of the five Working Groups established in 1989.

(a) Group 1 (Chairman: Mr. Rüdiger Lüdeking, Federal Republic of Germany)

- The Protocol on Inspection Procedures.

(b) Group 2 (Chairman: Mr. Mohammed Gomaa, Egypt)

- Final Clauses.

(c) Group 3 (Chairman: Mr. Rakesh Sood, India)

- The Scientific Advisory Board.

(d) Group 4 (Chairman: Mr. Johan Molander, Sweden)

- Guidelines for Schedule 1.

- Annex 1 to Article VI.

- Modalities for revision of schedules and guidelines.

(e) Group 5 (Chairman: Dr. Walter Krutzsch, German Democratic Republic)

- Undiminished security during the destruction period.

5. In addition, the Chairman of the Ad Hoc Committee continued open-ended consultations on the issue of challenge inspection.

6. In its work, the Ad Hoc Committee utilized Appendices I and II of the Report on its work in 1989 (CD/952), proposals made by the Chairman of the Ad Hoc Committee, the Chairmen of the Working Groups as well as by delegations.

7. Furthermore, the Technical Group on Instrumentation, chaired by Dr. Marjatta Rautio of Finland, continued its work with a view to identifying all analytical tasks necessary for effective verification, determining the availability of instrumentaion (on-site and off-site) and providing recommendations to the Ad Hoc Committee in this respect. Such tasks included analytical instrumentation, process monitoring, seals, surveillance, containment, sampling and transport of samples, and database development. The Report of the Group is contained in document CD/CW/WP.272.

III. CONCLUSIONS AND RECOMMENDATIONS

8. The results of the work undertaken during the resumed session are reflected in the updated versions of the Appendices to CD/952, attached hereto. Appendix I to this Report represents the present stage of elaboration of the provisions of the Draft Convention. Appendix II contains papers reflecting the results of work undertaken so far on issues in the Convention. They are enclosed as a basis for future work.

9. The Ad Hoc Committee recommends to the Conference on Disarmament:

(a) that Appendix I to this Report be used for further negotiation and drafting of the Convention;

(b) that other documents reflecting the state of work of the Ad Hoc Committee, as contained in Appendix II to this Report, together with other relevant present and future documents of the Conference, also be utilized in the further negotiation and elaboration of the Convention.

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APPENDIX I

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APPENDIX II

This Appendix contains papers reflecting results of work undertaken on issues under the Convention. They are enclosed to serve as a basis for future work.

APPENDIX I

Preliminary structure of a Convention on chemical weapons

Preamble

I. General provisions on scope

II. Definitions and criteria

III. Declarations

IV. Chemical weapons

V. Chemical weapons production facilities

VI. Activities not prohibited by the Convention

VII. National implementation measures

VIII. The Organization

IX. Consultations, co-operation and fact finding

X. Assistance and protection against chemical weapons

XI. Economic and technological development

XII. Relation to other international agreements

XIII. Amendments

XIV. Duration and withdrawal

XV. Signature

XVI. Ratification

XVII. Accession

XVIII. Depositary

XIX. Entry into Force

XX. Languages and authentic texts

Annexes and other documents

Preamble 1/

The States Parties to this Convention,

Determined to act with a view to achieving effective progress towards general and complete disarmament under strict and effective international control, including the prohibition and elimination of all types of weapons of mass destruction,

Desiring to contribute to the realization of the purposes and principles of the Charter of the United Nations,

Recalling that the General Assembly of the United Nations Organization has repeatedly condemned all actions contrary to the principles and objectives of the Protocol for Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925,

Recognizing that the Convention reaffirms principles and objectives of and obligations assumed under the Geneva Protocol of 17 June 1925, and the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction signed at London, Moscow and Washington on 10 April 1972,

Bearing in mind the objective contained in Article IX of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction,

Determined for the sake of all mankind, to completely exclude the possibility of the use of chemical weapons, through the implementation of the provisions of this Convention, thereby complementing the obligations assumed under the Geneva Protocol of June 1925,

Considering that the achievements in the field of chemistry should be used exclusively for the benefit of mankind,

Convinced that the complete and effective prohibition of the development, production and stockpiling of chemical weapons, and their destruction, represents a necessary step towards the achievement of these common objectives.

Have agreed as follows:

1/ Some delegations consider that the texts contained in the Preamble require further consideration.

I. GENERAL PROVISIONS ON SCOPE 1/ 2/

1. Each State Party undertakes not to:

- develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone.

2. Each State Party undertakes not to:

- assist, encourage or induce, in any way, anyone to engage in activities prohibited to Parties under this Convention.

3. Each State Party undertakes not to use chemical weapons. 3/ 4/

4. [Each State Party undertakes not to [conduct other activities in preparation for use of chemical weapons] [engage in any military preparations for use of chemical weapons].]

5. Each State Party undertakes to destroy chemical weapons which are in its possession or under its [jurisdiction or] control. 5/

6. Each State Party undertakes to destroy chemical weapons production facilities which are in its possession or under its [jurisdiction or] control.

1/ One delegation pointed out, the preoccupying effects, in its view, on the security of States deriving from the very large disproportion, during the transitional period, between existing chemical weapons capabilities.

2/ Other delegations believed that the problem of disproportion between chemical weapons capabilities can be solved through their levelling out by a certain time after the entry into force of the Convention.

3/ It is understood that this provision is closely linked to the definition of chemical weapons in another part of the Convention, the final formulation of which is yet to be agreed upon. It is also understood that this provision does not apply to the use of toxic chemicals and their precursors for permitted purposes still to be defined and to be provided for in the Convention. This provision is also closely linked to a provision in the Convention to be agreed upon relating to reservations.

4/ The question of herbicides is subject to ongoing consultations. The 1986 Chairman of these open-ended consultations has suggested the following formulation for a provision on herbicides: "Each State Party undertakes not to use herbicides as a method of warfare; such a prohibition should not preclude any other use of herbicides".

5/ The view was expressed that the application of this provision to the destruction of discovered old chemical weapons needs to be further discussed. Another view was expressed that the application of this provision does not allow for any exceptions.

II. DEFINITIONS AND CRITERIA

For the purposes of this Convention:

1.1/ The term "chemical weapons" shall apply to the following, together or separately: 2/

(i) toxic chemicals, including super-toxic lethal chemicals, other lethal chemicals, other harmful chemicals and their precursors, including key precursors [and key components of binary and/or multicomponent chemical systems for chemical weapons], 3/ except such chemicals intended for purposes not prohibited by the Convention as long as the types and quantities involved are consistent with such purposes;

(ii) munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals, as referred to above, which would be released as a result of the employment of such munitions and devices;

1/ The definitions of chemical weapons are presented on the understanding that problems related to irritants used for law enforcement and riot control, and also to chemicals intended to enhance the effect of the use of chemical weapons if their inclusion in the Convention is agreed could be handled outside the definitions of chemical weapons if this will result in a more clear and understandable definition. Preliminary suggestions to solve these problems are given below and consultations on them will be continued.

2/ One delegation expressed its reservation on the present formulation of the definition of chemical weapons and on the terminology used in (i) that failed to reflect the general purpose criterion.

3/ Some delegations consider that further deliberation is required in order to clarify at a later stage of the negotiations the implications of this definition for other parts of the Convention. This applies to other relevant parts of the Appendix. Other delegations consider that key component of binary and/or multicomponent chemical system for chemical weapons means: a component which poses a special risk to the objectives of the Convention as it can be an integral part in a chemical weapons munition or device and can form toxic chemicals at the moment of their employment and possesses the following characteristics: (a) reacts (interacts) rapidly with other component(s) of binary and/or multicomponent chemical system during the munition's flight to the target and gives a high yield of final toxic chemical; (b) plays an important role in determining the toxic properties of the final product; (c) may not be used, or be used only in minimal quantities, for permitted purposes; (d) possesses the stability necessary for long-term storage.

(iii) any equipment specifically designed for use directly in connection with the employment of such munitions or devices.

- [The term "chemical weapons" shall not apply to those chemicals which are not super-toxic lethal, or other lethal chemicals and which are approved by the Conference of the States Parties for use by a Party for domestic law enforcement and domestic riot control purposes.]

- [States Parties agree not to [develop, produce, stockpile or] utilize for chemical weapons chemicals intended to enhance the effect of the use of such weapons.]

[2. "Toxic chemicals" means:

chemicals [however or wherever they are produced], [whether produced in plants, munitions or elsewhere] [regardless of the method and pattern of production] whose toxic properties can be utilized to cause death or temporary or permanent harm, to man or animals involving:]

[2. "Toxic chemicals" means:

any chemical, regardless of its origin or method of production which through its chemical action on life processes can cause death, temporary incapacitation, or permanent harm to man or animals]

[For the purpose of this Convention toxic chemicals are listed in Schedules contained in the Annex on Chemicals.] 1/

3. "Purposes not prohibited by the Convention" means:

(a) industrial, agricultural, research, medical or other peaceful purposes, domestic law enforcement purposes; and military purposes not connected with the use of chemical weapons.

(b) protective purposes, namely those purposes directly related to protection against chemical weapons; 2/

4. "Precursor" means:

a chemical reagent which takes part in the production of a toxic chemical.

[For the purpose of this Convention precursor chemicals are listed in Schedules contained in the Annex on Chemicals.] 1/

1/ The issue of a reference to the Annex on Chemicals in Article II should be further considered.

2/ The suggestion that such permitted protective purposes should relate only to "an adversary's use of" chemical weapons was removed pending a decision on whether in the Convention the question of prohibiting other military preparations for use of chemical weapons than those mentioned under scope should be dealt with.

5. The term "chemical weapons production facility": 1/

(a) means any equipment, as well as any building housing such equipment, that was designed, constructed or used since 1 January 1946:

(i) as part of the stage in the production of chemicals ("final technological stage") where the material flows would contain, when the equipment is in operation, any Schedule 1 chemical, or any other chemical that has no use for permitted purposes above ... kilograms per year but can be used for chemical weapons purposes; 2/ or

(ii) for filling chemical weapons. 3/

(b) does not include any facility with an annual capacity for synthesis of chemicals specified in subparagraph (a) (i) above that is less than [1,000-2,000] kilograms. 4/ 5/

(c) does not include the single small-scale facility provided under Annex 1 to Article VI of the Convention.

1/ A view was expressed that this definition may need to be reviewed to take into account further elaboration of Article VI.

2/ Any such chemical should be included in a relevant schedule of chemicals in the convention.

3/ The filling of chemical weapons includes, inter alia:

- the filling of Schedule 1 chemicals into munitions, devices, or bulk storage containers;
- the filling of chemicals into containers which form part of assembled binary munitions and devices and into chemical submunitions which form part of assembled unitary munitions and devices;
- the loading of the containers and chemical submunitions into the respective munitions and devices.

4/ The disposition of such facilities should be decided in the context of Articles III and VI of the Convention.

5/ This threshold should be decided once an agreed definition for the term "capacity" has been developed. Further work is needed on it, taking into account, inter alia, the report on how to define production capacity reproduced in Appendix II.

III. DECLARATIONS 1/

1. Each State Party shall submit to the Organization, not later than 30 days after the Convention enters into force for it, the following declarations:

(a) Chemical Weapons

(i) whether it has any chemical weapons under its jurisdiction or control 2/ anywhere;

(ii) whether it has on its territory any chemical weapons under the jurisdiction or control of others, including a State not Party to the Convention;

(iii) whether it has transferred or received any chemical weapons and whether it has transferred to or received from anyone the control over such weapons since [1 January 1946] [26 March 1975].

(b) Chemical Weapons Production Facilities

(i) whether it has any chemical weapons production facilities under its jurisdiction or control anywhere or has had such facilities at any time since [1.1.1946];

(ii) whether it has any chemical weapons production facilities on its territory under the jurisdiction or control of others, including a State not Party to this Convention, or has had such facilities at any time since [1.1.1946];

(iii) whether it has transferred or received any equipment for the production of chemical weapons [and documentation relevant to the production of chemical weapons] since [1.1.1946], and whether it has transferred to, or received from, anyone the control of such equipment [and documentation].

1/ The view was expressed that the Annex to this Article needs to be reviewed.

2/ It is agreed that the concept of "jurisdiction or control" requires additional discussion and elaboration. To facilitate work on the issue an informal discussion-paper dated 20 March 1987 was prepared, on the request of the Chairman of the Committee, by Dr. Bolewski (Federal Republic of Germany), Dr. Szénási (Hungary) and Mr. Effendi (Indonesia).

(c) Other declarations

The precise location, nature and general scope of activities of any facility and establishment 1/ on its territory or under its jurisdiction or under its control anywhere 2/ designed, constructed or used since [1.1.1946] for development of chemical weapons, inter alia, laboratories and test and evaluation sites.

2. Each State Party making affirmative statements in regard to any of the provisions under subparagraphs 1a and 1b of this Article shall carry out all relevant measures envisaged in any or all of Articles IV and V.

1/ The scope of the phrase "any facility and establishment" is to be clarified and an appropriate formulation found.

2/ It is agreed that the concept of "on its territory or under its jurisdiction or under its control anywhere" requires additional discussion and elaboration.

IV. CHEMICAL WEAPONS

1. The provisions of this article and its Annex shall apply to any and all chemical weapons under the jurisdiction or control of a State Party, regardless of location, including those on the territory of another State.

2. Each State Party, within 30 days after the Convention enters into force for it, shall submit a declaration which:

(a) specifies the precise location, aggregate quantity and detailed inventory of any chemical weapons under its jurisdiction or control;

(b) reports any chemical weapons on its territory under the jurisdiction or control of others, including a State not Party to this Convention;

(c) specifies any transfer or receipt by the State Party of any chemical weapons since [1 January 1946] [26 March 1975] or any transfer of control by that State Party of such weapons; and

(d) provides its general plan for destruction of its chemical weapons.

3. Each State Party shall, immediately after the declaration under paragraph 2 of this Article has been submitted, provide access to its chemical weapons for the purpose of systematic international on-site verification of the declaration through on-site inspection. Thereafter, each State Party shall ensure, through access to its chemical weapons for the purpose of systematic international on-site verification and through on-site inspection and continuous monitoring with on-site instruments, that the chemical weapons are not removed except to a destruction facility.

4. Each State Party shall submit detailed plans for the destruction of chemical weapons not later than six months before each destruction period begins. The detailed plans shall encompass all stocks to be destroyed during the next coming period, and shall include the precise location and the detailed composition of the chemical weapons which are subject to destruction during that period.

5. Each State Party shall:

(a) destroy all chemical weapons pursuant to the Order specified in the Annex to Article IV, beginning not later than 12 months and finishing not later than 10 years after the Convention enters into force for it;

(b) provide information annually regarding the implementation of its plans for destruction of chemical weapons; and

(c) certify, not later than 30 days after the destruction process has been completed, that all chemical weapons have been destroyed.

6. Each State Party shall provide access to any chemical weapons destruction facilities and the facilities' storage for the purpose of systematic international on-site verification of destruction through the continuous presence of inspectors and continuous monitoring with on-site instruments, in accordance with the Annex to Article IV.

7. Any chemical weapons discovered by a State Party after the initial declaration of chemical weapons shall be reported, secured and destroyed, as provided in the Annex to Article IV. 1/ 2/

8. All locations where chemical weapons are stored or destroyed shall be subject to systematic international on-site verification, through on-site inspection and monitoring with on-site instruments in accordance with the Annex to Article IV.

9. Any State Party which has on its territory chemical weapons which are under the control of a State that is not a Party to this Convention shall ensure that such weapons are removed from its territory not later than [30 days] after the date on which the Convention entered into force for it.

10. The declaration, plans and information submitted by each State Party under this article shall be made in accordance with the Annex to Article III and the Annex to Article IV.

[11. Reminder: undiminished security during the destruction period.] 3/

1/ Consultations were carried out on this issue. The results are reflected in CD/CW/WP.177/Rev.1. Different views were expressed, inter alia on the question of the responsibility for the destruction of these weapons. Further work is needed.

2/ For some delegations, the question of the applicability of this Annex to obsolete chemical weapons (ordonances) retrieved from the combat zones of World War I will have to be resolved later.

3/ The question of the proper place in the text of the Convention for provisions concerning undiminished security during the destruction period is to be further discussed.

V. CHEMICAL WEAPONS PRODUCTION FACILITIES

1. The provisions of this article shall apply to any and all chemical weapons production facilities under the jurisdiction or control of a State Party, regardless of location. 1/

2. Each State Party with any chemical weapons production facility shall cease immediately all activity at each chemical weapons production facility except that required for closure.

3. No State Party shall construct any new facility or modify any existing facility for the purpose of chemical weapons production or for any other purpose prohibited by the Convention.

4. Each State Party, within 30 days after the Convention enters into force for it, shall submit a declaration which:

(a) specifies any chemical weapons production facilities under its jurisdiction or control, or on its territory under the control of others, including a State not party to this Convention, at any time since [1 January 1946] [at the time of entry into force of the Convention];

(b) specifies any transfer or any receipt by the State Party of any equipment for the production of chemical weapons [and documentation relevant to the production of chemical weapons] since [1.1.1946] or any transfer of control by that Party of such equipment [and documentation];

(c) specifies actions to be taken for closure of each chemical weapons production facility;

(d) outlines its general plan for destruction for each chemical weapons production facility, and

(e) outlines its general plan for any temporary conversion of any chemical weapons production facility into a facility for destruction of chemical weapons.

5. Each State Party shall, immediately after the declaration, under paragraph 4, has been submitted, provide access to each chemical weapons production facility for the purpose of systematic international on-site verification of the declaration through on-site inspection.

6. Each State Party shall:

(a) close within three months after the Convention enters into force for it, each chemical weapons production facility in a manner that will render each facility inoperable; and

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1/ It is understood that the above provisions also apply to any facility on the territory of another State [regardless of ownership and form of contract, on the basis of which they have been set up and functioned for the purposes of production of chemical weapons].

(b) provide access to each chemical weapons production facility, subsequent to closure, for the purpose of systematic international on-site verification through periodic on-site inspection and continuous monitoring with on-site instruments in order to ensure that the facility remains closed and is subsequently destroyed.

7. Each State Party shall submit detailed plans for destruction of each facility not later than [3] [6] months before the destruction of the facility begins.

8. Each State Party shall:

(a) destroy all chemical weapons production facilities, and related facilities and equipment specified in Section II-C-3 of the Annex to Article V, in accordance with the provisions of that Annex, beginning not later than 12 months, and finishing not later than 10 years, after the Convention enters into force;

(b) provide information annually regarding the implementation of its plans for the destruction of its chemical weapons production facilities, and

(c) certify, not later than 30 days after the destruction process has been completed, that its chemical weapons production facilities have been destroyed.

9. A chemical weapons production facility may be temporarily converted for destruction of chemical weapons. Such a converted facility must be destroyed as soon as it is no longer in use for destruction of chemical weapons and, in any case, not later than 10 years after the Convention enters into force.

10. Each State Party shall submit all chemical weapons production facilities to systematic international on-site verification through on-site inspection and monitoring with on-site instruments in accordance with the Annex to Article V.

11. The declaration, plans and information submitted by each State Party under this article shall be made in accordance with the Annex to Article V.

[12. Reminder: undiminished security during the destruction period.] 1/

1/ The question of the proper place in the text of the Convention for provisions concerning undiminished security during the destruction period is to be further discussed.

VI. ACTIVITIES NOT PROHIBITED BY THE CONVENTION 1/ 2/ 3/

1. Each State Party:

(a) has the right, subject to the provisions of this Convention, to develop, produce, otherwise acquire, retain, transfer and use toxic chemicals and their precursors for purposes not prohibited by the Convention.

(b) shall ensure that toxic chemicals and their precursors are not developed, produced, otherwise acquired, retained, transferred, or used within its territory or anywhere under its jurisdiction or control for purposes prohibited by the Convention.

2. Toxic chemicals and their precursors listed in Schedules 1, 2A, 2B and 3 in the Annex on Chemicals which could be used for purposes prohibited by the Convention, as well as facilities which produce, process or consume these toxic chemicals or precursors, shall be subject to international monitoring as provided in Annexes 1, 2 and 3 to this Article.

The schedules of chemicals contained in the Annex on Chemicals may be revised according to part IV to that Annex.

3. Within 30 days of the entry into force of it, each State Party shall declare data on relevant chemicals and the facilities which produce them, in accordance with Annexes 1, 2 and 3 of this Article.

4. Each State Party shall make an annual declaration regarding the relevant chemicals in accordance with Annexes 1, 2 and 3 to this Article.

5. Each State Party undertakes to subject chemicals listed in Schedule 1 and facilities specified in Annex 1 to this Article to the measures contained in that Annex.

6. Each State Party undertakes to subject chemicals listed in Schedule 2, Parts A and B and facilities declared under Annex 2 to this Article to monitoring by data reporting and routine systematic international on-site verificiation, through on-site inspection and use of on-site instruments as long as production and processing are not impaired.

1/ This Article and its Annexes 2 and 3 need further consideration on the basis of CD/CW/WP.256.

2/ One delegation considers that the terminology used in this article and its annexes should be consistent with the final definition of chemical weapons to be agreed upon.

3/ One delegation expressed the view that the question of collection and forwarding of data and other information to verify non-production requires further consideration. This delegation made reference to the Working Paper CD/CW/WP.159 of 19 March 1987, which includes draft elements for inclusion in the rolling text.

7. Each State Party undertakes to subject chemicals listed in Schedule 3 and facilities declared under Annex 3 to this Article to monitoring by data reporting.

8. The provisions of this article shall be implemented in a manner designed in so far as possible to avoid hampering the economic or technological development of parties to the Convention and international co-operation in the field of peaceful chemical activities including the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for peaceful purposes in accordance with the provisions of the Convention. 1/

9. In conducting verification activities, the Technical Secretariat shall avoid undue intrusion into the State Party's peaceful chemical activities.

10. For the purpose of on-site verification, each State Party shall grant to the International Inspectors access to facilities as required in the Annexes to this Article.

1/ The inclusion of this paragraph in this Article is to be considered further.

VII. NATIONAL IMPLEMENTATION MEASURES 1/

General undertakings

1. Each State Party to this Convention shall adopt the necessary measures in accordance with its constitutional processes to implement this Convention and, in particular, to prohibit and prevent anywhere under its jurisdiction or control any activity that a State Party to this Convention is prohibited from conducting by this Convention.

Relations between the State Party and the Organization

2. Each State Party shall inform the Organization of the legislative and administrative measures taken to implement the Convention.

3. States Parties shall treat as confidential and afford special handling to information which they receive in connection with the implementation of the Convention from the Organization. They shall treat such information exclusively in connection with their rights and obligations under the Convention and in accordance with the provisions set out in the Annex on the Protection of Confidential Information. 2/

4. In order to fulfil its obligations under the Convention, each State Party shall appoint a National Authority and inform the Organization of the designated National Authority at the time that the Convention enters into force for it. The National Authority shall serve as the national focal point for effective liaison with the Organization and other States Parties. 3/

5. Each State Party undertakes to co-operate with the Organization in the exercise of all its functions and in particular to provide assistance to the Technical Secretariat including data reporting, assistance for international on-site inspections, provided for in this Convention, and a response to all its requests for the provision of expertise, information and laboratory support.

1/ The view was expressed that the placement of Article VII needs to be discussed further.

2/ A view was expressed that further discussion on this subject is necessary.

3/ The view was expressed that the role of the National Authority might need to be further developed.

VIII. THE ORGANIZATION 1/

A. General Provisions

1. The States Parties to the Convention hereby establish the Organization for the Prohibition of Chemical Weapons, to achieve the objectives of the Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and co-operation among States Parties. 2/

2. All States Parties to the Convention shall be members of the Organization.

3. The seat of the headquarters of the Organization shall be ...

4. There are hereby established as the organs of the Organization the Conference of the States Parties, 3/ the Executive Council and the Technical Secretariat.

5. The verification activities described in this Convention shall be conducted in the least intrusive manner possible consistent with the timely and efficient accomplishment of their objectives. The Organization shall request only the information and data necessary to fulfil its responsibilities under the Convention. It shall take every precaution to protect the confidentiality of information on civil and military activities and facilities coming to its knowledge in the implementation of the Convention and, in particular, shall abide by the provisions set out in the Annex on the Protection of Confidential Information. 4/

1/ One delegation has expressed reservations with regard to the approach being given to the concept of an Organization for the Prohibition of Chemical Weapons, or any other similar solution for this purpose, and has expressed the view that before proceeding further in the examination of this question, there is a need to define the principles that will govern the financing of such an Organization.

2/ A view was expressed that the achievement of these objectives should be sought in close co-operation with the United Nations.

3/ A view was expressed that the designation of this highest organ, to which many references are made throughout the text, should be determined only after further consideration of other provisions of the Convention and that, in this connection, the possibility of using the designation "the General Conference" may also be considered.

4/ A view was expressed that further discussion on this subject is necessary.

B. Conference of the States Parties

(a) Composition, procedure and decision-making

1. The Conference of the States Parties shall be composed of all the States Parties to this Convention. Each State Party to the Convention shall have one representative in the Conference of the States Parties, who may be accompanied by alternates and advisers.

2. The first session of the Conference of the States Parties shall be convened by the Depositary at (venue) not later than 30 days after the entry into force of the Convention.

3. The Conference of the States Parties shall meet in regular sessions which should be held annually unless it decides otherwise. Special sessions shall be convened:

- when decided by the Conference of the States Parties;
- when requested by the Executive Council; or
- when requested by any State Party [and supported by [5-10] [one third of the] States Parties].

The special session shall be convened not later than [30-45] days after lodgement of the request with the Director-General unless specified otherwise in the request.

4. Sessions shall take place at the headquarters of the Organization unless the Conference of the States Parties decides otherwise.

5. The Conference of the States Parties shall adopt its rules of procedure. At the beginning of each regular session, it shall elect its Chairman and such other officers as may be required. They shall hold office until a new Chairman and other officers are elected at the next regular session.

6. A majority of the members of the Conference of the States Parties shall constitute a quorum.

7. Each member of the Conference of the States Parties shall have one vote.

8. The Conference of the States Parties shall take decisions on questions of procedure, including decisions to convene special sessions of the Conference, by a simple majority of the members present and voting. Decisions on matters of substance should be taken as far as possible by consensus. If consensus is not attainable when an issue comes up for decision, the Chairman shall defer any vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Conference prior to the end of the period. If consensus is not possible at the end of 24 hours, the Conference shall take the decision by a two-thirds majority of members present and voting unless otherwise specified in the Convention. When the issue arises as to whether the question is one of substance or not, that question shall be treated as one of substance unless otherwise decided by the Conference by the majority required for decisions on questions of substance.

(b) Powers and functions

1. The Conference of the States Parties shall be the principal organ of the Organization. It shall consider any questions, matters or issues within the scope of the Convention, including those relating to the powers and functions of the Executive Council and Technical Secretariat. It may make recommendations and take decisions 1/ on any questions, matters or issues related to the Convention raised by a State Party or brought to its attention by the Executive Council.

2. The Conference of the States Parties shall oversee the implementation of the Convention, and act in order to promote its objectives. It shall review compliance with it. It shall also oversee the activities of the Executive Council and the Technical Secretariat and may issue guidelines in accordance with the Convention to either of them in the exercise of their functions.

3. In addition, the powers and functions of the Conference of the States Parties shall be:

(i) To consider and adopt at its regular sessions the report of the Organization, consider other reports and consider and adopt the programme and budget of the Organization, submitted by the Executive Council;

(ii) to [encourage] [promote] international co-operation for peaceful purposes in the chemical field;

(iii) to review scientific and technological developments which could affect the operation of the Convention and, in this context, direct the Director-General to establish a Scientific Advisory Board 2/ to enable him, in the performance of his functions, to render to the Conference of States Parties, the Executive Council or States Parties independent and specialized advice in areas of science and technology relevant to the Convention. 3/

(iv) to decide on the scale of financial contributions to be paid by States Parties; 4/

1/ A view was expressed that the report of a fact-finding inquiry should not be put to a vote, nor should any decision be taken as to whether a Party is complying with the provisions of the Convention.

2/ A view was expressed that the subject needs further examination, including the relationship with other organs of the Organization and its financial implications.

3/ Terms of reference for the Scientific Advisory Board should be elaborated once the Chemical Weapons Convention has entered into force. Several delegations considered that this should be done before the appointment of the members of the Scientific Advisory Board.

4/ The entire problem of the costs of the Organization needs to be considered

(v) to elect the members of the Executive Council;

(vi) to appoint the Director-General of the Technical Secretariat;

(vii) to approve the rules of procedure of the Executive Council submitted by the latter;

(viii) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention. 1/

(ix) ... 2/

4. The Conference of the States Parties shall, after the expiry of 5 and 10 years from the date of entry into force of this Convention and at such other times within that time period as may be agreed on, meet in special sessions to undertake reviews of the operation of this Convention. Such reviews shall take into account any relevant scientific and technological developments. At intervals of five years thereafter, unless otherwise agreed upon by a majority of the States Parties, further sessions of the Conference of the States Parties shall be convened with the same objective. 3/

[5. The Chairman of the Conference of the States Parties shall serve as non-voting Chairman of the Executive Council.]

C. The Executive Council

(a) Composition, procedure and decision-making 4/

(To be elaborated)

(b) Powers and functions

1. The Executive Council shall be the executive organ of the Conference of the States Parties, to which it shall be responsible. It shall carry out the powers and functions entrusted to it under the Convention and its Annexes, as well as such functions delegated to it by the Conference of the States Parties. In so doing, it shall act in conformity with the recommendations, decisions and guidelines of the Conference of the States Parties and assure their continuous and proper implementation.

1/ It has been proposed that a Fact-finding Panel be established as a subsidiary body.

2/ The question of functions relating to the implementation of Articles X and XI will be considered at a later stage. Other functions, e.g. the action to be taken in the event of non-compliance by a State Party, could be included as well.

3/ The placement and wording of this provision as well as the possible need for separate review conferences require further consideration.

4/ Consultations on this issue were carried out by the Chairman of the Ad Hoc Committee for the 1989 session. The outcome of these consultations is contained in Appendix II.

2. In particular, the Executive Council shall:

(a) promote the effective implementation of, and compliance with, the Convention;

(b) supervise the activities of the Technical Secretariat;

(c) co-operate with the appropriate national authorities of States Parties and facilitate consultations and co-operation among States Parties at their request;

(d) consider any issue or matter within its competence, affecting the Convention and its implementation, including concerns regarding compliance, and cases of non-compliance, 1/ and, as appropriate, inform States Parties and bring the issue or matter to the attention of the Conference of the States Parties;

(e) consider and submit to the Conference of the States Parties the draft programme and budget of the Organization;

(f) consider and submit to the Conference of the States Parties the draft report of the Organization on the implementation of the Convention, the report on the performance of its own activities and such special reports as it deems necessary or which the Conference of the States Parties may request;

(g) conclude agreements with States and international organizations on behalf of the Organization, subject to approval by the Conference of the States Parties, and approve agreements relating to the implementation of verification activities, negotiated by the Director-General of the Technical Secretariat with States Parties;

(h) (i) meet for regular sessions. Between regular sessions, it shall meet as often as may be required for the fulfilment of its functions;

[(ii) elect its Chairman;]

(iii) elaborate and submit its rules of Procedure to the Conference of the States Parties for approval;

(iv) make arrangements for the sessions of the Conference of the States Parties including the preparation of a draft agenda.

3. The Executive Council may request the convening of a special session of the Conference of the States Parties. 2/

1/ A view was expressed that the report of a fact-finding inquiry should not be put to a vote, nor should any decision be taken as to whether a Party is complying with the provisions of the Convention.

2/ It has been proposed that the Executive Council should request the convening of a special session of the Conference of the States Parties whenever obligations set forth in Article I of the Convention are violated.

D. Technical Secretariat

1. A Technical Secretariat shall be established to assist the Conference of the States Parties and the Executive Council in the performance of their functions. The Technical Secretariat shall carry out the functions entrusted to it under the Convention and its Annexes, as well as such functions assigned to it by the Conference of the States Parties and the Executive Council.

2. In particular, the Technical Secretariat shall:

(a) address and receive communications on behalf of the Organization to and from States Parties on matters pertaining to the implementation of the Convention;

(b) negotiate the subsidiary agreements with States Parties relating to systematic international on-site verification for approval by the Executive Council;

(c) execute international verification measure provided for in the Convention; 1/

(d) inform the Executive Council of any problems which have arisen with regard to the execution of its functions, and of [doubts, ambiguities or uncertainties about compliance with the Convention] which have come to its notice in the performance of its verification activities and/or which it has been unable to resolve or clarify through its consultations with the State Party concerned;

(e) provide technical assistance and technical evaluation to States Parties [in accordance with] [in the implementation of the provisions of] the Convention, including evaluations of listed and unlisted chemicals. 2/

(f) prepare and submit to the Executive Council the draft programme and budget of the Organization;

(g) prepare and submit to the Executive Council the draft report of the Organization on the implementation of the Convention and such other reports as the Executive Council and/or the Conference of the States Parties may request;

(h) provide administrative and technical support 2/ to the Conference of the States Parties, the Executive Council and other subsidiary bodies.

1/ It has been suggested that the International Inspectorate may request inspections for some insufficiently clear situations in the context of their systematic verification activities.

2/ The phrasing of this paragraph needs to be considered further in the light of the elaboration of the relevant provision of the Convention. It has been suggested that the technical assistance or evaluation may relate, inter alia, to developing technical procedures, improving the effectiveness of verification methods.

3. The International Inspectorate shall be a unit of the Technical Secretariat and shall act under the supervision of the Director-General of the Technical Secretariat.

4. The Technical Secretariat shall comprise a Director-General, who shall be its head and chief administrative officer, and inspectors and such scientific, technical and other personnel as may be required.

5. The Director-General of the Technical Secretariat shall be appointed by the Conference of the States Parties [upon the recommendation of the Executive Council] 1/ for [4] [5] years [renewable for one further term, but not thereafter]. The Director-General shall be responsible to the Conference of the States Parties and the Executive Council for the appointment of the staff and the organization and functioning of the Technical Secretariat. The paramount consideration in the employment of the staff and in the determination of the conditions of services shall be the necessity of securing the highest standards of efficiency, competence and integrity. Only citizens of States Parties shall serve as international inspectors or as other members of the professional and clerical staff. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible. Recruitment shall be guided by the principle that the staff shall be kept to a minimum necessary for the proper execution of its responsibilities.

6. Consequent to paragraph 3 (iii) in Section B above, the Director-General is responsible for the organization and functioning of the Scientific Advisory Board. He shall, in consultation with States Parties, appoint members of the Scientific Advisory Board who shall serve in their individual capacity. The members of the Board shall be appointed on the basis of their expertise in the particular scientific fields relevant to the implementation of the Convention. The Director-General may also, as appropriate, in consultation with members of the Board, establish temporary working groups of scientific experts to provide recommendations on specific issues. In regard to the above, States Parties may submit lists of experts to the Director-General.

7. In the performance of their duties, the Director-General of the Technical Secretariat, the inspectors and other members of the staff shall not seek or receive instructions from any Government or from any other source external to the Organization. They shall refrain from any action which might reflect on their positions as international officers responsible only to the Conference of the States Parties and the Executive Council.

8. Each State Party shall undertake to respect the exclusively international character of the responsibilities of the Director-General of the Technical Secretariat, the inspectors and the other members of the staff and not seek to influence them in the discharge of their responsibilities.

1/ It has been proposed that the Director-General of the Technical Secretariat be appointed by the Conference of the States Parties upon the recommendation of the Secretary-General of the United Nations.

IX. CONSULTATIONS, CO-OPERATION AND FACT-FINDING 1/

1. States Parties shall consult and co-operate, directly among themselves, or through the Organization or other appropriate international procedures, including procedures within the framework of the United Nations and in accordance with its Charter, on any matter which may be raised relating to the objectives or the implementation of the provisions of this Convention.

2. States Parties to the Convention shall make every possible effort to clarify and resolve, through exchange of information and consultations among them, any matter which may cause doubt about compliance with this Convention, or which gives rise to concerns about a related matter which may be considered ambiguous. A Party which receives a request from another Party for clarification of any matter which the requesting Party believes causes such doubts or concerns shall provide the requesting Party, within ... days of the request, with information sufficient to answer the doubts or concerns raised along with an explanation on how the information provided resolves the matter. Nothing in this Convention affects the right of any two or more States Parties to this Convention to arrange by mutual consent for inspections or any other procedures among themselves to clarify and resolve any matter which may cause doubts about compliance or gives rise to concerns about a related matter which may be considered ambiguous. Such arrangements shall not affect the rights and obligations of any State Party under other provisions of this Convention.

Procedure for requesting clarification

3. A State Party shall have the right to request the Executive Council to assist in clarifying any situation which may be considered ambiguous or which gives rise to doubts about the compliance of another State Party with the Convention. The Executive Council shall provide appropriate information and data in its possession relevant to the situation which can dispel such doubts.

4. A State Party shall have the right to request the Executive Council to obtain clarification from another State Party on any situation which may be considered ambiguous or which gives rise to doubts about its compliance with the Convention. In such a case, the following shall apply:

(a) The Executive Council shall forward the request for clarification to the State Party concerned within 24 hours of its receipt.

(b) The requested State Party shall provide the clarification to the Executive Council within seven days of the receipt of the request.

1/ Some delegations expressed the view that the issue of verification of alleged use of chemical weapons and procedures for conducting such inspections had not yet been considered in-depth and should be discussed at a later stage on the basis of the proposed Annex to Article IX (documents CD/766 and CD/CW/WP.173).

(c) The Executive Council shall forward the clarification to the requesting State Party within 24 hours of its receipt.

(d) In the event that the requesting State Party deems the clarification to be inadequate, it may request the Executive Council to obtain from the requested State Party further clarification.

(e) For the purpose of obtaining further clarification requested under paragraph 2 (d), the Executive Council may set up a group of experts to examine all available information and data relevant to the situation causing the doubt. The group of experts shall submit a factual report to the Executive Council on its findings.

(f) Should the requesting State Party consider the clarification obtained under paragraphs 2 (d) and 2 (e) to be unsatisfactory, it may request a special meeting of the Executive Council in which States Parties involved not members of the Executive Council shall be entitled to take part. In such a special meeting, the Executive Council shall consider the matter and may recommend any measure it deems appropriate to cope with the situation.

5. A State Party shall also have the right to request the Executive Council to clarify any situation which has been considered ambiguous or has given rise to doubts about its compliance with the Convention. The Executive Council shall respond by providing such assistance as appropriate.

6. The Executive Council shall inform the States Parties to this Convention about any request for clarification provided in this Article.

7. If the doubts or concerns of a State Party about compliance have not been resolved within two months after the submission of the request for clarification to the Executive Council, or it believes its doubts warrant urgent consideration, without necessarily exercising its right to the challenge procedure, it may request a special session of the Conference of the States Parties in accordance with Article VIII. In such a special session, the Conference of the States Parties shall consider the matter and may recommend any measure it deems appropriate to cope with the situation.

Procedure for requesting a fact-finding mission

The further contents of Article IX remain to be elaborated. 1/

1/ Consultations on this issue were carried out by the Chairman of the Ad Hoc Committee for the 1987 session and the Chairman of Group C for the 1988 session. The state of affairs, was contained in CD/952. The Chairman of the Ad hoc Committee for the 1989 session undertook consultations on Article IX, Part 2, the outcome of which is contained in Appendix II.

X. ASSISTANCE AND PROTECTION AGAINST CHEMICAL WEAPONS 1/

XI. ECONOMIC AND TECHNOLOGICAL DEVELOPMENT 1/

XII. RELATION TO OTHER INTERNATIONAL AGREEMENTS 2/

Nothing in this Convention will be interpreted as in any way impairing the obligations assumed under the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925 and in the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed at London, Moscow and Washington on 10 April 1972.

XIII. AMENDMENTS 2/

XIV. DURATION AND WITHDRAWAL 3/

1. This Convention shall be of unlimited duration.

2. Each State Party to this Convention shall, in exercising its national sovereignty, have the right to withdraw from the Convention if it decides that extraordinary events, related to the subject matter of the Convention, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other States Parties to the Convention and the (United Nations Security Council) (Depositary) three months in advance. 4/ Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

The withdrawal of a State Party from this Convention shall not in any way affect the duty of States to continue fulfilling the obligations assumed under any relevant rules of international law, particularly the Geneva Protocol of 17 June 1925.

1/ Work on this Article continued. With the aim of facilitating further consideration of the issues involved, the text reflecting the current stage of discussion is included in Appendix II.

2/ During the 1989 session, work on this Article was continued. With the aim of facilitating further consideration of the issues involved, the text reflecting the current stage of discussion is included in Appendix II.

3/ A view was expressed that the withdrawal of any State Party shall not affect its obligations under Article I of this Convention.

4/ A view was expressed that the question of possibly setting different periods for the purpose of different circumstances relating to withdrawal, instead of a single period, requires further consideration.

XV. SIGNATURE

This Convention shall be open for signature for all States before its entry into force at (venue). 1/ 2/

XVI. RATIFICATION

This Convention shall be subject to ratification by States signatories according to their respective constitutional processes.

XVII. ACCESSION

Any State which does not sign the Convention before its entry into force may accede to it at any time. 3/

XVIII. DEPOSITARY 4/

The Secretary-General of the United Nations is hereby designated as the Depositary of this Convention and shall:

1. promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession and the date of the entry into force of this Convention, and of the receipt of other notices. The Depositary shall immediately upon receipt transmit any notices required by this Convention to every Party;

2. transmit duly certified copies of this Convention to the Governments of all signatory and acceding States;

3. register this Convention pursuant to Article 102 of the Charter of the United Nations.

1/ One delegation expressed the view that the Convention should be open for signature indefinitely.

2/ One delegation was of the view that this Article and the following Articles related to ratification, accession, deposit of instruments and entry into force should be contained under one Article.

3/ One delegation expressed a view that accession would not be necessary.

4/ It is to be discussed if other functions might be entrusted to the Depositary with regard to the special needs of the Convention.

XIX. ENTRY INTO FORCE

(a) This Convention shall enter into force (30) days after the date of the deposit of the (60th) instrument of ratification.

(b) For States whose instruments of ratification or accession are deposited subsequent to the entry forces of this Convention, it shall enter into force on the (30th) day following the date of deposit of their instrument of ratification or accession. 1/

XX. LANGUAGES AND AUTHENTIC TEXTS

This Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

1/ It is to be discussed further how to ensure that all "chemical weapons possessing" and "chemical weapons capable" States be among those States whose ratification would be required for the Convention to enter into force.

ANNEXES

ANNEX ON CHEMICALS

Table of Contents

ANNEX ON CHEMICALS

I. DEFINITIONS 1/

A. Definitions related to toxicity

(a) "super-toxic lethal chemicals", means chemicals which have a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m^3 (by inhalation) when measured by an agreed method 2/ set forth in ...

["Ultra-toxic chemicals" means super-toxic lethal chemicals which have a median lethal dose which is less than or equal to 0.1 mg/kg.]

[(b) "other lethal chemicals", means chemicals which have a median lethal dose which is greater than 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m^3 (by inhalation) and less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m^3 (by inhalation) when measured by an agreed method set forth in ...

[(c) "other harmful chemicals", means any [toxic] chemicals not covered by (a) or (b) above, [including toxic chemicals which normally cause temporary incapacitation rather than death] [at similar doses to those at which super-toxic lethal chemicals cause death].]

[and "other harmful chemicals", means chemicals which have a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m^3 (by inhalation).]]

B. Definitions related to precursor chemicals

(a) "Key Precursor" means:

a precursor which poses a significant risk to the objectives of the Convention by virtue of its importance in the production of a toxic chemical.

It may possess [possesses] the following characteristics:

(i) It may play [plays] an important role in determining the toxic properties of a [toxic chemical prohibited by the Convention] [super-toxic lethal chemical].

1/ The final placement of these definitions within the Covention will be decided at a later stage.

2/ It was noted that after such measurements had actually been performed, the figures mentioned in this and the following section might be subject to slight changes in order to cover sulphur mustard gas under the first category.

(ii) It may be used in one of the chemical reactions at the final stage of formation of the [toxic chemicals prohibited by the Convention] [super-toxic lethal chemical].

[(iii) It may [is] not be used, or [is] used only in minimal quantities, for permitted purposes.] 1/

[(b) Key component of binary and/or multicomponent chemical systems for chemical weapons means:]

[a precursor which forms a toxic chemical in the binary or multicomponent weapons munition or device and which has the following additional characteristics (to be elaborated):]

1/ The position of this subparagraph should be decided in relation to how some chemicals, for instance, isopropylalcohol, are dealt with in the Convention.

II. SCHEDULES OF CHEMICALS

A. Schedule 1

1. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates 1/

e.g. Sarin: O-isopropyl methylphosphonofluoridate	(107-44-8)
Soman: O-pinacolyl methylphosphonofluoridate	(96-64-0)

2. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates 1/

e.g. Tabun: O-ethyl N,N-dimethylphosphoramidocyanidate	(77-81-6)

3. O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding quarternary ammonium compounds 1/

e.g. VX: O-ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate	(50782-69-9)

4. Sulphur mustards [e.g.]:

Mustard gas (H): bis(2-chloroethyl)sulphide	(505-60-2)
Sesquimustard (Q): 1,2-bis(2-chloroethylthio)ethane	(3563-36-8)
O-Mustard (T): bis(2-chloroethylthioethyl)ether	(63918-89-8)
bis(2-chloroethylthio)methane	(63869-13-6)
1,3-bis(2-chloroethylthio)-n-propane	(63905-10-2)
1,4-bis(2-chloroethylthio)-n-butane	
2-Chloroethylchloromethylsulphide	(2625-76-5)

5. Lewisites:

Lewisite 1: 2-chlorovinyldichloroarsine	(541-25-3)
Lewisite 2: bis(2-chlorovinyl)chloroarsine	(40334-69-8)
Lewisite 3: tris(2-chlorovinyl)arsine	(40334-70-1)

6. Nitrogen mustards:

HN1: bis(2-chloroethyl)ethylamine	(538-07-8)
HN2: bis(2-chloroethyl)methylamine	(51-75-2)
HN3: tris(2-chloroethyl)amine	(555-77-1)

7. 3-Quinuclidinyl benzilate (BZ) 2/ (6581-06-2)

1/ The precise delimitation of this group requires further discussion.

2/ The desirability of extending this item to include also related chemicals should be further discussed.

[8. Saxitoxin 1/ (35523-89-8)]

[9. Ricin 1/]

10. Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluoride 2/

e.g. DF: methylphosphonyldifluoride (676-99-3)

11. O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, N-Pr or i-Pr) phosphonites and corresponding quarternary ammonium compounds 2/

e.g. QL: O-ethyl O-2-diisopropylaminoethyl methylphosphonite (57856-11-8)

[12. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonochloridates 3/4/

e.g. Chloro Sarin: O-isopropyl methylphosphonochloridate (1445-76-7)
Chloro Soman: O-pinacolyl methylphosphonochloridate (7040-57-5)]

[13. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol) 5/ (464-07-3)]

1/ A view was expressed that, since toxins are covered by the Biological and Toxin Weapons Convention, they should not be covered by the Chemical Weapons Convention. Another view was expressed that since toxins are toxic chemicals, they would automatically be covered by the Chemical Weapons Convention. In addition, a view was expressed that relevant toxins should also be considered for inclusion in Schedule 2 part B. Another view was expressed that saxitoxin and ricin should only be considered examples of toxins that could be included in Schedule 1.

2/ The view was expressed that other members than DF and QL should be put on Schedule 2 part A, where however they are already covered by the first item.

3/ The precise delimitation of this group requires further discussion.

4/ A view was expressed that this group belongs to Schedule 2 part A, where it is already covered by the first item.

5/ A view was expressed that this chemical should be included in Schedule 2 part A.

B. Schedule 2 part A

1. Chemicals, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group [radical] but not further carbon atoms, except for those chemicals listed under Schedule 1. 1/

2. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides

3. Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidates

4. Arsenic trichloride (7784-34-1)

5. 2,2-Diphenyl-2-hydroxyacetic acid 2/ (76-93-7)

6. Quinuclidin-3-ol 2/ (1619-34-7)

7. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chloride and corresponding quarternary ammonium compounds 3/4/

1/ The precise delimitation of this group requires further discussion.

2/ If item 7 on Schedule 1 is expanded into a group, a corresponding expansion should be considered for items 5 and 6 on Schedule 2 part A. Item 5 could, e.g., then include:

2-phenyl-2-(phenyl, cyclohexyl, cyclopentyl or cyclobutyl)-2-hydroxyacetic acids and their methyl, ethyl, n-propyl and iso-propyl esters,

and item 6 could, e.g., include:

3- or 4-hydroxypiperidine and their [derivatives] and [analogs].

3/ It was suggested that a limitation of the group to contain only the N,N-diisopropyl compounds should be considered in view of the scale of the commercial production of other group members. These other group members could then be included in Schedule 3. In this context, a view was also expressed that it could be sufficient to have only the N,N-diisopropyl compounds in Schedule 2 part A from the viewpoint that they are key precursors to VX. Furthermore a view was expressed that unless an appropriate limitation of the group can be provided, the placement of this group on this schedule should be reconsidered in light of existing commercial production of substances included in the group.

4/ A view was expressed that "and corresponding quarternary ammonium compounds" should be replaced by "and corresponding salts".

8. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ol and corresponding quarternary ammonium compounds 1/2/

9. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiol and corresponding quarternary ammonium compounds 1/2/

10. Bis(2-hydroxyethyl)sulphide (thiodiglycol) 3/ (111-48-8)

[11. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol) 4/ (464-07-3)]

C. Schedule 2 part B 5/6/7/

Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate (78-53-5)

1/ It was suggested that a limitation of the group to contain only the N,N-diisopropyl compounds should be considered in view of the scale of the commercial production of other group members. These other gorup members could then be included in Schedule 3. In this context, a view was also expressed that it could be sufficient to have only the N,N-diisopropyl compounds in Schedule 2 part A from the viewpoint that they are key precursors to VX. Furthermore a view was expressed that unless an appropriate limitation of the group can be provided, the placement of this group on this schedule should be reconsidered in light of existing commercial production of substances included in the group.

2/ A view was expressed that "and corresponding quarternary ammonium compounds" should be replaced by "and corresponding salts".

3/ A view was expressed that this chemical should be included in Schedule 3.

4/ A view was expressed that this chemical should be included in Schedule 1.

5/ A view was expressed that saxitoxin and ricin should be included in Schedule 2 part B.

6/ A view was expressed that CS and CR should be included in one of the Schedules.

7/ A view was expressed that 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (PFIB) CAS No. 382-21-8 be included in Schedule 2 B.

D. Schedule 3 1/

Phosgene	(75-44-5)
Cyanogen chloride	(506-77-4)
Hydrogen cyanide	(74-90-8)
Trichloronitromethane (chloropicrin)	(76-06-2)
Phosphorus oxychloride	(10025-87-3)
Phosphorus trichloride	(7719-12-2)
Di- and Trimethyl/Ethyl Esters of Phosphorus [P III] Acid 2/	
[e.g.]: Trimethyl phosphite	(121-45-9)
Triethyl phosphite	(122-52-1)
Dimethyl phosphite	(868-85-9)
Diethyl phosphite	(762-04-9)
Sulphur monochloride	(10025-67-9)
Sulphur dichloride	(10545-99-0)
Thionyl chloride	(7719-09-7)
Phosphorus pentachloride	(10026-13-8)

1/ It was observed that no precursors for nitrogen mustards had been included and it was proposed that the three compounds triethanolamine, ethyldiethanolamine and methyldiethanolamine should be discussed in this context for possible inclusion in Schedule 3.

2/ Some felt that this heading might be superfluous and a possible source of misunderstandings, and therefore should be deleted.

III. GUIDELINES FOR SCHEDULES OF CHEMICALS

A. Guidelines for Schedule 1 1/

The following guidelines, singly or in combination, should be taken into account in considering whether a chemical should be included in Schedule 1:

1. Super-toxic lethal chemicals which had been stockpiled as chemical weapons.

2. Super-toxic lethal chemicals which pose a particular risk of potential use as chemical weapons.

3. Super-toxic lethal chemicals which have little or no use except as chemical weapons.

4. Super-toxic lethal chemicals which possess physical and chemical properties enabling them to be used as chemical weapons. 2/

5. Super-toxic lethal chemicals with chemical structure related/similar to those super-toxic lethal chemicals already listed in Schedule 1. 3/

6. Chemicals whose principal effect is to cause temporary incapacitation and which possess physical and chemical properties enabling them to be used as chemical weapons.

7. Any toxic chemical with a chemical structure related/similar to those chemicals already listed in Schedule 1. 3/

8. Other chemicals which have been stockpiled as chemical weapons.

9. Other chemicals which have little or no use except as chemical weapons.

10. Key precursors which participate in a one-stage process of producing toxic chemicals in munitions and devices. 4/

11. Key precursors which pose a high risk to the objectives of the Convention by virtue of their high potential for use to produce chemical weapons.

1/ These guidelines were developed in 1987. As no agreement has been reached on them, they are presently considered for revision partly on the basis of a new conceptual approach, contained in CD/CW/WP.258.

2/ A view was expressed that compounds listed in Schedule 1 should possess the properties of chemical warfare agents.

3/ The view was expressed that this by itself would not be sufficient to include a chemical in Schedule 1.

4/ One delegation believes that this provision is not necessary and that it is already covered under point 12.

12. Key precursors which may possess the following characteristics:

(i) it may react with other chemicals to give, within a short time, a high yield of a toxic chemical defined as a chemical weapon;

(ii) the reaction may be carried out in such a manner that the toxic product is readily available for military use; and

(iii) key precursors which have little or no use except for chemical weapons purposes.

B. Guidelines for Schedule 2 part A 1/

The following criteria shall be taken into account in considering whether a precursor to a Schedule 1 chemical would be included in Schedule 2 part A:

1. It may be used in one of the chemical reactions at the final stage of formation of a chemical listed in Schedule 1.

2. It may pose a significant risk 2/ to the objectives of the Convention by virtue of its importance in the production of a chemical listed in Schedule 1.

[3. It is not produced in large commercial quantities for purposes not prohibited by the Convention. 3/]

C. Guidelines for Schedule 2 part B 1/

Super-toxic lethal chemicals and other chemicals which are not included in Schedule 1 and are not precursor chemicals but which are deemed to pose a significant risk to the objectives of the Convention. 4/5/

1/ These guidelines are in the process of further consideration and development.

2/ The view was expressed that the degree of the risk of a chemical is determined on the basis of the contribution made by a precursor to the formation of the structure, or on the basis of the role it plays in determining the toxic properties of a Schedule 1 chemical.

3/ The question of the applicability of a quantitative criterion requires further discussion, taking into account, inter alia, the aim of the measures stipulated in Article VI, paragraph 6, as set forth in Annex 2 to Article VI, paragraph 4, the likelihood of meeting the various aspects of this aim by routine systematic on-site inspections and use of on-site instruments and the necessity of efficient implementation of verification.

4/ A view was expressed that, when assessing the risk to the objectives of the Convention, factors such as the lethal or incapacitating effects of a chemical, as well as its suitability as a chemical weapon in terms of physical and chemical properties should be taken into account.

5/ A view was expressed that chemicals included in Schedule 2 part B may have commercial use.

D. Guidelines for Schedule 3 1/

The following criteria shall be taken into account when considering whether a dual purpose chemical or a precursor chemical, not listed in other schedules, would be included in Schedule 3:

A. Dual purpose chemical

1. It is produced in large commercial quantities 2/ for purposes not prohibited by the Convention, and

2. it has been stockpiled as a chemical weapon, or

3. it may pose a risk to the objectives of the Convention by virtue of its physical, chemical and toxicological properties being similar to those of chemical weapons.

B. Precursor chemical

1. It is produced in large commercial quantities 2/ for purposes not prohibited by the Convention, and

2. it may pose a risk to the objectives of the Convention by virtue of its importance in the production of one or more chemicals listed in Schedule 1, or in the production of precursors to such chemicals 3/ [, and

3. it contributes one or more atoms other than hydrogen, carbon, nitrogen or oxygen to the final listed end-product 4/].

1/ These guidelines are in the process of further consideration and development.

2/ The question of a quantitative criterion, possibly including a numerical threshold, requires further discussion.

3/ A view was expressed that only precursors which may pose a risk to the objectives of the Convention by virtue of their importance in the production of one or more chemicals listed in Schedule 1 or 2 part A should be included.

4/ Whether this criterion is unduly restrictive should be further discussed.

IV. MODALITIES FOR REVISION OF SCHEDULES AND GUIDELINES 1/

A. General provisions

1. The revisions envisaged consist of additions to, deletions from, or shifts between the schedules and modifications of, additions to or deletions from the guidelines.

2. A revision shall be proposed by a State Party which may request the assistance of the Technical Secretariat in the preparation of its proposal. If the Director-General of the Technical Secretariat has [, or obtains from the Scientific Advisory Board,] any information which in his opinion may require a revision of the schedules of chemicals or one or more of the guidelines, he shall provide that information to the Executive Council and communicate it to all States Parties.

3. A proposal for revision shall be transmitted to the Director-General of the Technical Secretariat, substantiated with necessary information.

4. The Director-General of the Technical Secretariat shall inform the Executive Council and all States Parties about a proposal for a revision within [5] days of its receipt.

5. Any State Party and the Director-General of the Technical Secretariat may also provide relevant information for the evaluation of the proposal.

B. Decisions regarding revisions of schedules

1. When a proposal is made regarding a deletion of a chemical from a schedule or a shift between schedules the régime for that chemical shall be maintained while a decision on the proposed deletion or shift is being reached.

2. When an addition to a schedule of chemicals is proposed no régime shall be applied to that chemical until a decision has been taken to include it on one of the schedules.

1/ The view was expressed that there is no need to specify a role for the Scientific Advisory Board in these provisions as its functions will be determined by the Director-General in accordance with Article VIII. Another view was expressed that the Scientific Advisory Board should be able to submit to the Director-General or through him to the competent organs of the Organization any information available to it which in its opinion could lead to or contribute to a revision. These views apply to paras. A 2, B 4, C 1, C 3 of the present section.

[3. The proposal communicated under paragraph A.4 above shall be considered approved [if no State Party objects 1/ to it within [60] days after its receipt of the proposal.][upon the receipt within [60] days of formal acceptance by all States Parties.] 2/]

4. [In the absence of such approval,] the Executive Council shall examine in light of all information available to it, [including any assessment by the Scientific Advisory Board,] the proposal for a revision. Within [90] days of the receipt of the proposal by the Director-General of the Technical Secretariat, the Executive Council shall provide its recommendation, together with appropriate background information, to all States Parties for consideration.

5. If the Executive Council recommends to all States Parties that the proposal be adopted, 3/ it shall be considered approved [[if no State Party objects][if no more than [5] States Parties object] 1/ to it within [30] days after its receipt of the recommendation.][upon the receipt within [30] days of formal acceptance by all States Parties.] 2/

6. Otherwise, a decision on the proposal shall be taken as a matter of substance by the Conference of the States Parties at its next regular session. For urgent consideration, a special session of the Conference of the States Parties may be convened according to article VIII, paragraph B.(a).3.

7. Any decision shall be notified to all States Parties. An approved revision shall enter into force [60] days after such a notification.

C. Decisions regarding revision of guidelines

1. The Executive Council shall examine in light of all information available to it[, including any assessment by the Scientific Advisory Board,] the proposal for a revision. Within [90] days of the receipt of the proposal by the Director-General of the Technical Secretariat, the Executive Council shall provide its recommendation, together with appropriate background information, to all States Parties for consideration.

1/ A view was expressed that an objection to a revision should be substantiated.

2/ Views were expressed that this latter bracketed phrase does not accord with the concept of tacit approval.

3/ A view was expressed that the same procedure should apply also in case of a recommendation for rejection.

2. The decision on a proposal shall be taken by the Conference of the States Parties in accordance with the procedures [laid down in Article XIII. 1/][to be specified in this Annex.]

3. Following a revision of guidelines, the Director-General of the Technical Secretariat shall, [with the assistance of the Scientific Advisory Board, immediately initiate a review of any schedule affected by the revision. This review shall be completed and the results communicated to all States Parties within [six] months.] 2/

1/ These procedures are presently under development.

2/ Further discussions are required as to whether a review would always be necessary and as to who would participate in the review process.

V. TOXICITY DETERMINATIONS

A. Procedures for toxicity determinations 1/2/

Recommended standardized operating procedures for acute subcutaneous toxicity determinations

1. Introduction

Three categories of agents were defined on the basis of their toxicity:

(i) super-toxic lethal chemicals;

(ii) other lethal chemicals;

(iii) other harmful chemicals.

Lethality limits in terms of LD_{50} for subcutaneous administration were established to separate three toxic categories at 0.5 mg/kg and 10 mg/kg.

2. Principles of the test method

The test substance is administered to a group of animals in doses corresponding exactly to the category limits (0.5 or 10 mg/kg respectively). If in an actual test the death rate was greater than 50 per cent, then the material would fall into the higher toxicity category; if it was lower than 50 per cent the material would fall into the lower toxicity category.

3. Description of the test procedure

3.1 Experimental animal Healthy young adult male albino rats of Wistar strain weighing 200 ± 20 g should be used. The animals should be acclimatized to the laboratory conditions for at least five days prior to the test. The temperature of the animal room before and during the test should be 22 ± 3° C and the relative humidity should be 50-70 per cent. With artificial lighting, the sequence should be 12 hours light, 12 hours dark. Conventional laboratory diets may be used for feeding with an unlimited supply of drinking water. The animals should be group-caged but the number of animals per cage should not interfere with proper observation of each animal. Prior to the test, the animals are randomized and divided into groups; 20 animals in each group.

3.2 Test substance Each test substance should be appropriately identified (chemical composition, origin, batch number, purity, solubility, stability, etc.) and stored under conditions ensuring its stability. The stability of the substance under the test conditions should also be known. A solution of the test substance should be prepared just before the test. Solutions with concentrations of 0.5 mg/ml and 10 mg/ml should be prepared. The preferable solvent is 0.85 per cent saline. Where the solubility of the

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1/ It was understood that these recommended standardized operating procedures (CD/CW/WP.30) for toxicity determinations might be supplemented or modified and/or, if necessary, reviewed.

2/ A view was expressed that appropriate methods for testing of non-lethal harmful chemicals need to be addressed at a later stage.

test substance is a problem, a minimum amount of an organic solvent such as ethanol, propylene glycol or polyethylene glycol may be used to achieve solution.

3.3 Test method Twenty animals receive in the back region 1 ml/kg of the solution containing 0.5 mg/ml of the test substance. The number of dead animals is determined within 48 hours and again after 7 days. If the death rate is lower than 10 animals, another group of 20 animals should be injected by the same way with 1 ml/kg of the solution containing 10 mg/ml of the test substance. The number of dead animals should be determined within 48 hours and again after 7 days. If the result is doubtful (e.g. death rate = 10), the test should be repeated.

3.4 Evaluation of the results If the death rate in the first group of animals (receiving a solution containing 0.5 mg/ml) is equal to or higher than 50 per cent, the test substance will fall into the "super-toxic lethal chemical" category. If the death rate in the second group (receiving a solution containing 10 mg/ml) is equal to or higher than 50 per cent, the test substance will fall into the "other lethal chemical" category; if lower than 50 per cent, the test substance will fall into the "other harmful chemical".

4. Data reporting

A test report should include the following information:

(i) test conditions: date and hour of the test, air temperature and humidity;

(ii) animal data: strain, weight and origin of the animals;

(iii) test substance characterization: chemical composition, origin, batch number and purity (or impurities) of the substance; date of receipt, quantities received and used in the test; conditions of storage, solvent used in the test;

(iv) results: the number of dead animals in each group, evaluation of results.

Recommended standardized operating procedures for acute inhalation toxicity criteria

1. In the assessment and evaluation of the toxic characteristics of chemicals in a vapour or aerosol state determination of acute inhalation toxicity is necessary. In every case, when it is possible, this test should be preceded by subcutaneous toxicity determination. Data from these studies constitute the initial steps in the establishing of a dosage regimen in subchronic and other studies and may provide additional information on the mode of toxic action of a substance.

Three categories of agents were defined on the basis of their toxicity:

(i) super-toxic lethal chemicals;

(ii) other lethal chemicals;

(iii) other harmful chemicals.

Lethality limits in terms of LCt_{50} for inhalatory application were established to separate three toxic categories at 2,000 mg min/m^3 and 20,000 mg min/m^3.

2. Principles of the test method

A group of animals is exposed for a defined period to the test substance in concentration corresponding exactly to the category limits (2,000 mg min/m^3 or 20,000 mg min/m^3 respectively. If in an actual test the death rate was greater than 50 per cent, then the material would fall into the higher toxicity category; if it was lower than 50 per cent, the material would fall into the lower toxicity category.

3. Description of the test procedure

3.1 Experimental animal Healthy young adult male albino rats of Wistar strain weighing 200 ± 20 g should be used. The animals should be acclimatized to the laboratory conditions for at least five days prior to the test. The temperature of the animal room before and during the test should be 22 ± 3° C and the relative humidity should be 50-70 per cent. With artificial lighting, the sequence should be 12 hours light, 12 hours dark. Conventional laboratory diets may be used for feeding with an unlimited supply of drinking water. The animals should be group-caged but the number of animals per cage should not interfere with proper observation of each animal. Prior to the test the animals are randomized and divided into two groups; 20 animals in each group.

3.2 Test substance Each test substance should be appropriately identified (chemical composition, origin, batch number, purity, solubility, stability, boiling point, flash point, vapour pressure, etc.) and stored under conditions ensuring its stability. The stability of the substance under the test conditions should also be known.

3.3. Equipment A constant vapour concentration may be produced by one of several methods:

(i) by means of an automatic syringe which drops the material on to a suitable heating system (e.g. hot plate);

(ii) by sending airsteam through a solution containing the material (e.g. bubbling chamber);

(iii) by diffusion of the agent through a suitable material (e.g. diffusion chamber).

A dynamic inhalation system with a suitable analytical concentration control system should be used. The rate of air flow should be adjusted to ensure that conditions throughout the equipment are essentially the same. Both a whole body individual chamber exposure or head only exposure may be used.

3.4 Physical measurements Measurements or monitoring should be conducted of the following parameters:

(i) the rate of air flow (preferably continuously);

(ii) the actual concentration of the test substance during the exposed period;

(iii) temperature and humidity.

3.5 Test method Twenty animals are exposed for 10 minutes to the concentration of 200 mg/m^3 and then removed from the chamber. The number of dead animals is determined within 48 hours and again after 7 days. If the death rate is lower than 10 animals, another group of 20 animals should be exposed for 10 minutes to the concentration of 2,000 mg/m^3. The number of dead animals should be determined within 48 hours and again after 7 days. If the result is doubtful (e.g. death rate = 10), the test should be repeated.

3.6 Evaluation of results If the death rate in the first group of animals (exposed to the concentration of 200 mg/m^3) is equal to or higher than 50 per cent, the test substance will fall into the "super-toxic lethal chemical" category. If the death rate in the second group (exposed to the concentration of 2,000 mg/m^3) is equal to or higher than 50 per cent, the test substance will fall into the "other lethal chemical" category; if it is lower than 50 per cent, the test substance will fall into the "other harmful chemical".

4. Data reporting

A test report should include the following information:

(i) Test conditions: date and hour of the test, description of exposure chamber (type, dimensions, source of air, system for generating the test substance, method of conditioning air, treatment of exhaust air, etc.) and equipment for measuring temperature, humidity, air flow and concentration of the test substance;

(ii) Exposure data: air flow rate, temperature and humidity of air, nominal concentration (total amount of test substance fed into the equipment divided by volume of air), actual concentration in test breathing zone;

(iii) Animal data: strain, weight and origin of animals;

(iv) Test substance characterization: chemical composition, origin, batch number and purity (or impurities) of the substance; boiling point, flash point, vapour pressure; date of receipt, quantities received and used in the test; condition of storage, solvent used in the test;

(v) Results: number of dead animals in each group, evaluation of results.

B. Modalities for revision of toxicity determination procedures

(To be developed)

ANNEX ON THE PROTECTION OF CONFIDENTIAL INFORMATION 1/2/

A. GENERAL PRINCIPLES FOR THE HANDLING OF CONFIDENTIAL INFORMATION

1. The obligation to protect confidential information shall pertain to the verification of both civil and military activities and facilities. As specified in Article VIII, the Organization shall:

(a) require only the minimum amount of information and data necessary for the timely and efficient carrying out of its responsibilities under the Convention;

(b) take measures necessary to ensure that inspectors and other staff members of the Technical Secretariat meet the highest standards of efficiency, competence, and integrity;

(c) develop agreements and regulations to implement the provisions of the Convention and shall specify as precisely as possible the information to which the Organization shall be given access by a State Party.

2. The Director-General of the Organization shall have the primary responsibility for ensuring the protection of confidential information. He shall establish a stringent régime governing the handling of confidential information by the Technical Secretariat. [The Director-General shall be assisted by an Assistant Director-General for Information Security.] In doing so he shall observe the following guidelines:

(a) Information shall be considered confidential if

(i) it is so designated by the State Party from whom the information was obtained and to which the information refers; or

(ii) in the judgement of the Director-General, its unauthorized disclosure could reasonably be expected to cause damage to the State Party to which it refers or to the mechanisms for implementation of the Convention.

(b) All data and documents obtained by the Technical Secretariat shall be evaluated by the appropriate unit of the Technical Secretariat in order to establish whether they contain confidential information. Data required by

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1/ A view was expressed that further discussion on this subject is necessary.

2/ The view was expressed that the references to confidentiality in Article VII and Article VIII are adequate. The detailed guidelines on confidentiality should be part of rules and regulations to be developed by the International Organization.

States Parties to be assured of the continued compliance with the Convention by other States Parties shall be routinely provided to them. Such data shall encompass:

(i) the initial and annual reports and declarations provided by States Parties under Articles III, IV, V and VI;

(ii) general reports on the results and effectiveness of verification activities; and

(iii) information to be supplied to all States Parties in accordance with the provisions of the Convention.

(c) No information obtained by the Organization in connection with implementation of the Convention shall be published or otherwise released, except, as follows:

(i) General information on the implementation of the Convention may be compiled and released publicly in accordance with the decisions of the Conference of States Parties or the Executive Council. [Prior to public release, all data and documents shall be evaluated by a specially designated unit of the Technical Secretariat to ensure that they do not contain confidential information.]

(ii) Any information may be released with the express consent of the State Party to which the information refers.

(iii) Information classified as confidential shall be released by the Organization only through agreed procedures which ensure that the release of information only occurs in strict conformity with the needs of the Convention.

(d) The level of sensitivity of confidential data or documents shall be established, based on criteria to be applied uniformly 1/ in order to ensure their appropriate handling and protection. For this purpose, a classification system shall be introduced, which by taking account of relevant work undertaken in the preparation of the Convention shall provide for clear criteria ensuring the inclusion of information into appropriate categories of confidentiality and the justified durability of the confidential nature of information. While providing for the necessary flexibility in its implementation the classification system shall protect the rights of States Parties providing confidential information.

(e) Confidential information shall be stored securely at the premises of the Organization. Some data or documents may also be stored with the national authority of a State Party. Sensitive information, inter alia, photographs,

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1/ The view was expressed that such criteria should be developed by the Technical Secretariat.

plans and other documents required only for the inspection of a specific facility may be kept under lock and key at this facility in conformity with the agreement to be concluded on the basis of a relevant model.

(f) To the greatest extent consistent with the effective implementation of the verification provisions of the Convention, information shall be handled and stored by the Technical Secretariat in a form that precludes direct identification of the facility to which it pertains.

(g) The amount of confidential information removed from a facility shall be kept to the minimum necessary for the timely and effective implementation of the verification provisions of the Convention.

[(h) Each employee shall only have access to that kind of information necessary for fulfilment of the function deriving from the relevant position description.]

(i) Access to confidential information shall be regulated in accordance with its classification. The dissemination of confidential information within the Organization shall be on a strictly need-to-know basis.

(j) The Director-General shall report annually to the Conference of States Parties on the implementation of this régime.

3. States Parties shall treat information which they receive from the Organization in accordance with the level of confidentiality established for that information. [Upon request States Parties shall provide details on the handling of information provided to them by the Organization.]

B. EMPLOYMENT AND CONDUCT OF PERSONNEL IN THE TECHNICAL SECRETARIAT

1. Conditions of staff employment shall be such as to ensure that access to and handling of confidential information shall be in conformity with the procedures established by the Director-General in accordance with part A of this Annex.

2. [Each position in the Technical Secretariat shall be governed by a formal position description that specifies the scope of access to confidential information, if any, needed in that position.]

3. In keeping with the provisions of Article VIII D of this Convention, the Director-General of the Technical Secretariat, the inspectors and other members of the staff shall not disclose even after termination of their functions to any unauthorized persons any confidential information coming to their knowledge in the performance of their official duties. They shall not communicate to any State, organization or person outside the Technical Secretariat any information to which they have access in connection with their activities in a State Party.

4. In the discharge of their function inspectors shall only request the information and data which are necessary to fulfil their mandate. They shall not take any records on information collected incidentally not related to verification of compliance with the Convention.

5. The staff shall enter into individual secrecy agreements 1/ [with the Technical Secretariat] covering their period of employment and a period of five years after it is terminated.

6. In order to avoid improper disclosures, inspectors and staff members shall be appropriately advised and reminded about security considerations [and of the possible penalties that they would incur, including the likelihood of the Organization's waiving their immunity from private suit].

[7. Not less than 30 days before an employee is given clearance for access to confidential information that refers to activities under the [jurisdiction or control] of a State Party, the State Party concerned shall be notified of the proposed clearance. For inspectors the notification of a proposed designation shall fulfil this requirement.

8. In evaluating the performance of inspectors and other employees of the Technical Secretariat, specific attention should be given to the employee's record regarding protection of confidential information.]

C. MEASURES TO PROTECT SENSITIVE INSTALLATIONS AND PREVENT DISCLOSURE OF CONFIDENTIAL DATA IN THE COURSE OF ON-SITE VERIFICATION ACTIVITIES 2/

1. States Parties may take such measures as they deem necessary to protect confidentiality, provided that they comply and demonstrate compliance with their obligations arising from the provisions of this Convention. Receiving an inspection they may indicate to the inspection team the equipment, documentation or areas that they consider sensitive and not related to the purpose of the inspection.

2. Teams shall be guided by the principle of conducting on-site inspections in the least intrusive manner possible, consistent with the effective and timely accomplishment of their mission. They shall, to the extent they deem them appropriate, take into consideration and adopt proposals which may be made by the State Party receiving the inspection, at whatever stage of the inspection, to ensure that sensitive equipment or information, not related to chemical weapons, is protected.

3. Inspection teams shall strictly abide by the provisions set out in the relevant Articles and Annexes of this Convention governing the conduct of inspections. They shall fully respect the procedures designed to protect sensitive installations and to prevent the disclosure of confidential data.

1/ This issue requires further consideration.

2/ The contents and placement of some provisions contained in this section need to be reviewed in the light of ongoing discussions on the Guidelines on the International Inspectorate.

4. In the elaboration of subsidiary arrangements/facility attachments due regard shall be paid to the requirement of protecting confidential information. Agreements on inspection procedures for individual facilities shall also include specific and detailed arrangements with regard to the determination of those areas of the facility to which inspectors are granted access, the storage of confidential information on-site, the scope of the inspection effort in agreed areas, the taking of samples and their analysis, the access to records and the use of instruments and continuous monitoring equipment.

5. The report to be prepared after each inspection shall only contain facts relevant to compliance with the Convention. The report shall be handled in accordance with the regulations established by the Organization governing the handling of confidential information. If necessary, the information contained in the report shall be processed into less sensitive forms before it is transmitted outside the Technical Secretariat and the inspected State Party.

D. PROCEDURES IN CASE OF BREACHES OR ALLEGED BREACHES OF CONFIDENTIALITY 1/

1. The Director-General of the Technical Secretariat shall establish necessary procedures to be followed in case of breaches or alleged breaches of confidentiality, taking into account recommendations made by the Preparatory Commission.

2. The Director-General of the Technical Secretariat shall oversee the implementation of individual secrecy agreements and promptly initiate an investigation if there is any indication that obligations concerning the protection of confidential information have been violated and if he considers such an indication sufficient. He shall also promptly initiate an investigation if an allegation concerning a breach of confidentiality is made by a State Party.

3. [Members of the staff of the Technical Secretariat shall be held responsible for any breach of secrecy agreements they entered into.] The Director-General shall impose appropriate punitive and disciplinary measures on staff members who have violated their obligations to protect confidential information. 2/ In case of serious breaches the immunity from legal process may be waived by the Director-General.

1/ This section should be reviewed in the light of the results of considerations of other legal issues, in particular liability and the settlement of disputes.

2/ A view was expressed that the Director-General should be given clear guidelines on which punitive and disciplinary measures would be deemed appropriate.

4. States Parties shall, to the extent possible, co-operate and support the Director-General of the Technical Secretariat in investigating any breach or alleged breach of confidentiality and in taking appropriate action in case a breach has been established.

5. The Organization shall not be held liable for any breach of confidentiality committed by members of the Technical Secretariat.

6. For breaches involving both a State Party and the Organization [or specifically within the Technical Secretariat] a "Commission for the settlement of disputes related to confidentiality", set up as a subsidiary ad hoc body of the Conference of States Parties, shall consider the case. This Commission shall be appointed by the Conference of States Parties.

ANNEX TO ARTICLE III

I. DECLARATIONS OF CHEMICAL WEAPONS

A. Possession or non-possession

1. Possession of chemical weapons on own territory

Yes ...

No ...

2. Possession, jurisdiction or control over chemical weapons elsewhere

Yes ...

No ...

B. Existence on the territory of any chemical weapons under the jurisdiction or control of anyone else

Yes ...

No ...

C. Past transfers

Yes ...

No ...

II. DECLARATIONS OF CHEMICAL WEAPONS PRODUCTION FACILITIES

A. Possession or non-possession

1. Possession of chemical weapons production facilities on own territory

Yes ...

No ...

2. Possession, jurisdiction or control over chemical weapons production facilities elsewhere

Yes ...

No ...

B. Existence on the territory of any chemical weapons production facilities under the jurisdiction or control of anyone else

Yes ...

No ...

C. Past transfers of equipment [or technical documentation] 1/

Yes ...

No ...

[III. OTHER DECLARATIONS]

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1/ The view was expressed that technical documentation should not be included.

ANNEX TO ARTICLE IV

I. DECLARATIONS OF CHEMICAL WEAPONS

A. The declaration by a State Party of the aggregate quantity, location, and detailed composition of chemical weapons under its jurisdiction or control shall include the following:

1. The aggregate quantity of each chemical declared.

2. The precise location of each declared storage site of chemical weapons, expressed by:

- name;

- geographical co-ordinates.

3. Detailed inventory for each storage facility:

(1) Chemicals defined as chemical weapons in accordance with Article II:

(a) Chemicals shall be declared within the schedules specified in the Annex on Chemicals.

(b) For a chemical not listed in the Schedules in the Annex on Chemicals the information required for possible assignment of the chemical to one of the proper schedules shall be provided, including the toxicity of the pure compound. For a precursor chemical, the toxicity and identity of the principal final reaction product(s) shall be provided.

(c) Chemicals shall be identified by chemical name in accordance with current IUPAC (International Union of Pure and Applied Chemistry) nomenclature, structural formula and Chemical Abstracts Service registry number, if assigned. For a precursor chemical, the toxicity and identity of the principal final reaction product(s) shall be provided.

(d) In cases involving mixtures of two or more chemicals, all such components shall be identified and the percentage of each component shall be provided, and the mixture shall be declared under the category of the most toxic chemical.

(e) In cases involving multi-component munitions, devices, bulk containers, and other containers, the quantity of each chemical component shall be provided, as well as the projected quantity of the final principal reaction product obtained. Such items shall be declared under the category of the [key precursor] [key component].

(f) For each chemical the form of storage, i.e. munitions, sub-munitions, devices, equipment or bulk containers and other containers shall be declared. For each form of storage the following shall be listed:

- type
- size or calibre
- number of items
- weight of chemical fill per item.

In addition, for chemicals stored in bulk the percentage purity shall be declared.

(g) For each chemical the total weight present at the storage site shall be declared.

(2) Unfilled munitions and/or sub-munitions and/or devices and/or equipment, defined as chemical weapons. For each type the information shall include:

(a) the number of items

(b) the fill volume per item

(c) the intended chemical fill, if known.

(3) Equipment specifically designed for use directly in connection with the employment of munitions, sub-munitions, devices or equipment under points (1) and (2).

(4) Chemicals specifically designed for use directly in connection with the employment of munitions, sub-munitions, devices or equipment under points (1) and (2).

B. Detailed information on any chemical weapons on the territory of a State Party which are under the jurisdiction or control of others, including a State not Party to the convention (to be developed).

C. Past transfers and receipts.

A State Party that has transferred or received chemical weapons shall declare this (these) transfer(s) or receipt(s), [provided the amount transferred or received exceeded one metric tonne [of chemicals] [per chemical] per year in bulk and/or munition form]. This declaration shall be made according to the inventory format in paragraph 3 above. This declaration shall also indicate the supplier and recipient countries and, as precisely as possible, timing and current location of the transferred items.

II. INTERNATIONAL VERIFICATION OF DECLARATIONS OF CHEMICAL WEAPONS, INTERNATIONAL SYSTEMATIC MONITORING OF STORAGE FACILITIES, INTERNATIONAL VERIFICATION OF REMOVAL OF CHEMICAL WEAPONS FOR DESTRUCTION

1. Storage facility description

(a) Each site or location where, pending their destruction chemical weapons, declared in accordance with Article IV, are stored on the territory of a State Party or under its jurisdiction or control elsewhere, shall hereafter be designated as "storage facility".

(b) At the time of the submission of its declaration of chemical weapons, in accordance with Article IV, a State Party shall provide the Technical Secretariat with the detailed description and location of its storage facility(ies) containing:

- boundary map;
- location of bunkers/storage areas, within the facility;
- the detailed inventory of the contents of each bunker/storage area;
- relevant details of the construction of bunkers/storage areas;
- recommendations for the emplacement by the Technical Secretariat of seals and monitoring instruments.

2. Measures to secure the storage facility and storage facility preparation

(a) Not later than when submitting its declaration of chemical weapons, a State Party shall take such measures as it considers appropriate to secure its storage facility(ies) and shall prevent any movement of its chemical weapons, except their removal for destruction.

(b) In order to prepare its storage facility(ies) for international verification, a State Party shall ensure that its chemical weapons at its storage facility(ies) are so configured that seals and monitoring devices may be effectively applied, and that such configuration allows ready access for such verification.

(c) While the storage facility remains closed for any movement of chemical weapons other than their removal for destruction activities necessary for maintenance and safety monitoring by national authorities may continue at the facility.

3. Agreements on subsidiary arrangements 1/

(a) Within [6] months after entry into force of the convention, States Parties shall conclude with the Organization agreements on subsidiary arrangements for verification of their storage facilities. Such agreements shall be based on a Model Agreement and shall specify for each storage facility the number, intensity, duration of inspections, detailed inspection procedures and the installation, operation and maintenance of the seals and monitoring devices by the Technical Secretariat. The Model Agreement shall include provisions to take into account future technological developments.

(b) States Parties shall ensure that the verification of declarations of chemical weapons and the initiation of the systematic monitoring of storage facilities can be accomplished by the Technical Secretariat at all storage facilities within the agreed time frames after the convention enters into force. 2/

4. International verification of declarations of chemical weapons

(a) International verification by on-site inspections

(i) The purpose of the international verification of declarations of chemical weapons shall be to confirm through on-site inspections the accuracy of the declarations made in accordance with Article IV. 3/

(ii) The International Inspectors shall conduct this verification promptly after a declaration is submitted. They shall, inter alia, verify the quantity and identity of chemicals, types and number of munitions, devices and other equipment.

(iii) They shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons at each storage facility.

(iv) As the inventory progresses, International Inspectors shall install such agreed seals as may be necessary to clearly indicate if any stocks are removed, and to ensure the securing of the storage facility.

1/ The coverage of the subsidiary arrangements is to be discussed.

2/ Procedures to ensure the implementation of the verification scheme within designated time frames are to be developed.

3/ The applicability of Article IV, paragraph 2(b) is to be discussed.

(b) Co-ordination for international systematic monitoring of storage facilities

In conjunction with the on-site inspections of verification of declarations of chemical weapons, the International Inspectors shall undertake necessary co-ordination for measures of systematic monitoring of storage facilities.

5. International systematic monitoring of storage facilities

(a) The purpose of the international systematic monitoring of storage facilities shall be to ensure that no undetected removal of chemical weapons takes place.

(b) The international systematic monitoring shall be initiated as soon as possible after the declaration of chemical weapons is submitted and shall continue until all chemical weapons have been removed from the storage facility. It shall be ensured, in accordance with the agreement on subsidiary arrangements, through a combination of continuous monitoring with on-site instruments and systematic verification by international on-site inspections or, where the continuous monitoring with on-site instruments is not feasible, by the presence of International Inspectors.

(c) If the relevant agreement on subsidiary arrangements for the systematic monitoring of a chemical weapons storage facility is concluded, International Inspectors shall install for the purpose of this systematic monitoring a monitoring system as referred to below under (e). If no such agreement has been concluded, the International Inspectors will initiate the systematic monitoring by their continuous presence on-site until the agreement is concluded, and the monitoring system installed and activated.

(d) In the period before the activation of the continuous monitoring with on-site instruments and at other times when this continuous monitoring is not feasible, seals installed by International Inspectors may only be opened in the presence of an International Inspector. If an extraordinary event requires the opening of a seal when an Inspector is not present, a State Party shall immediately inform the Technical Secretariat and International Inspectors will return as soon as possible to validate the inventory and re-establish the seals.

(e) Monitoring with instruments.

(i) For the purpose of the systematic monitoring of a chemical weapons storage facility, International Inspectors will install, in the presence of host country personnel and in conformity with the relevant agreement on subsidiary arrangements, a monitoring system consisting of, inter alia, sensors, ancillary equipment and transmission systems. The agreed types of these instruments shall be specified in the Model Agreement. They shall incorporate, inter alia, seals and other tamper-indicating and tamper-resistant devices as well as data protection and data authentication features.

(ii) The monitoring system shall have such abilities and be installed, adjusted or directed in such a way as to correspond strictly and efficiently to the sole purpose of detecting prohibited or unauthorized activities within the chemical weapons storage facility as referred to above under (a). The coverage of the monitoring system shall be limited accordingly. The monitoring system will signal the Technical Secretariat if any tampering with its components or interference with its functioning occurs. Redundancy shall be built into the monitoring system to ensure that failure of an individual component will not jeopardize the monitoring capability of the system.

(iii) When the monitoring system is activated, International Inspectors will verify the accuracy of the inventory of chemical weapons, as required.

(iv) Data will be transmitted from each storage facility to the Technical Secretariat by means (to be determined). The transmission system will incorporate frequent transmissions from the storage facility and a query and response system between the storage facility and the Technical Secretariat. International Inspectors shall periodically check the proper functioning of the monitoring system.

(v) In the event that the monitoring system indicated any irregularity, the International Inspectors would immediately determine whether this resulted from equipment malfunction or activities at the storage facility. If, after this examination the problem remained unresolved, the Technical Secretariat would immediately ascertain the actual situation, including through immediate on-site inspection or visit of the storage facility if necessary. The Technical Secretariat shall report any such problem immediately after its detection to the State Party who should assist in its resolution.

(vi) The State Party shall immediately notify the Technical Secretariat if an event at the storage facility occurs, or may occur, which may have an impact on the monitoring system. The State Party shall co-ordinate subsequent actions with the Technical Secretariat with a view to restoring the operation of the monitoring system, and establishing interim measures, if necessary, as soon as possible.

(f) Systematic on-site inspections and visits.

(i) Visits to service the monitoring system may be required in addition to systematic on-site inspections to perform any necessary maintenance, replacement of equipment or to adjust the coverage of the monitoring system, if required.

(ii) (The guidelines for determining the frequency of systematic on-site inspections are to be elaborated.) The particular storage facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected. During each inspection, the International Inspectors will verify that the monitoring system is functioning correctly and verify the inventory in agreed percentage of bunkers and storage areas.

(g) When all chemical weapons have been removed from the storage facility, the Technical Secretariat shall certify the declaration of the National Authority to that effect. After this certification, the Technical Secretariat shall terminate the international systematic monitoring of the storage facility and will promptly remove all devices and monitoring equipment installed by the International Inspectors.

6. International verification of the removal of chemical weapons for destruction

(a) The State Party shall notify the Technical Secretariat [14] days in advance of the exact timing of removal of chemical weapons from the storage facility and of the planned arrival at the facility where they will be destroyed.

(b) The State Party shall provide the Inspectors with the detailed inventory of the chemical weapons to be moved. The International Inspectors shall be present when chemical weapons are removed from the storage facility and shall verify that the chemical weapons on the inventory are loaded on to the transport vehicles. Upon completion of the loading operations, the International Inspectors shall seal the cargo and/or means of transport, as appropriate.

(c) If only a portion of the chemical weapons is removed, the International Inspectors will verify the accuracy of the inventory of the remaining chemical weapons and make any appropriate adjustments in the monitoring system in accordance with the agreement on subsidiary arrangements.

(d) The International Inspectors shall verify the arrival of the chemical weapons at the destruction facility by checking the seals on the cargo and/or the means of transport and shall verify the accuracy of the inventory of the chemical weapons transported.

7. Inspections and visits

(a) The (Director-General of the) Technical Secretariat shall notify the State Party of its decision to inspect or visit the storage facility 48 hours prior to the planned arrival of the inspection team at the facility for systematic inspections or visits. In the event of inspections or visits to resolve urgent problems, this period may be shortened. The (Director-General of the) Technical Secretariat shall specify the purpose(s) of the inspection or visit.

(b) A State Party shall make any necessary preparations for the arrival of the Inspectors and shall ensure their expeditious transportation from their point of entry on the territory of the State Party to the storage facility. The agreement on subsidiary arrangements will specify administrative arrangements for Inspectors.

(c) International Inspectors shall, in accordance with agreements on subsidiary arrangements:

- have unimpeded access to all parts of the storage facilities including any munitions, devices, bulk containers, or other containers therein. While conducting their activity, Inspectors shall comply with the safety regulations at the facility. The items to be inspected will be chosen by the Inspectors;

- bring with them and use such agreed instruments as may be necessary for the completion of their tasks;

- receive samples taken at their request from any devices and bulk containers and other containers at the facility. Such samples will be taken by representatives of the State Party in the presence of the Inspectors;

- perform on-site analysis of samples;

- transfer, if necessary, samples for analysis off-site at a laboratory designated by the Organizaton, 1/ in accordance with agreed procedures;

- afford the opportunity to the host State Party to be present when samples are analysed;

- ensure, in accordance with agreed procedures that samples transported, stored and processed are not tampered with;

- communicate freely with the Technical Secretariat.

(d) The State Party receiving the inspection shall, in accordance with agreed procedures:

- have the right to accompany the International Inspectors at all times during the inspection and observe all their verification activities at the storage facility;

- have the right to retain duplicates of all samples taken and be present when samples are analysed;

- have the right to inspect any instrument used or installed by the International Inspectors and to have it tested in the presence of its personnel;

1/ The designation of the organ of the Organization that will be entrusted with this task will be considered further and specified in the text.

- provide assistance to the International Inspectors, upon their request, for the installation of the monitoring system and the analysis of samples on-site;

- receive copies of the reports on inspections of its storage facility(ies);

- receive copies, at its request, of the information and data gathered about its storage facility(ies) by the Technical Secretariat.

(e) The International Inspectors may request clarification of any ambiguities arising from the inspection. In the event that any ambiguities arise which cannot be resolved in the course of the inspection, the Inspectors shall inform the (Director-General of the) Technical Secretariat.

(f) After each inspection or visit to the storage facility, International Inspectors shall submit a report with their findings to the (Director-General of the) Technical Secretariat which will transmit a copy of this report to the State Party having received the inspection or visit.

III. PRINCIPLES, METHODS AND ORGANIZATION OF THE DESTRUCTION OF CHEMICAL WEAPONS

1. Destruction of chemical weapons means a process by which chemicals are converted in an essentially irreversible way to a form unsuitable for production of chemical weapons, and which in an irreversible manner renders munitions and other devices unusable as such.

2. Each State Party possessing chemical weapons shall determine how it shall destroy them, except that the following processes may not be used: dumping in any body of water, land burial or open-pit burning. It shall destroy chemical weapons only at specifically designated and appropriately designed and equipped facility(ies).

3. The State Party shall ensure that its chemical weapons destruction facility(ies) are constructed and operated in a manner to ensure the destruction of the chemical weapons; and that the destruction process can be verified under the provisions of this convention.

IV. PRINCIPLES AND ORDER OF DESTRUCTION 1/

1. The elaboration of the Order of Destruction shall build on the undiminished security for all States during the entire destruction stage; confidence-building in the early part of the destruction stage; gradual acquisition of experience in the course of destroying chemical weapons stocks and applicability irrespective of the actual composition of the stockpiles and the methods chosen for the destruction of the chemical weapons.

1/ The further development of this entire section has been subject to consultations by the Chairman of Group B in 1988, the result of which is included in Appendix II.

2. The destruction of chemical weapons stocks shall start for all States Parties possessing chemical weapons simultaneously. The whole destruction stage shall be divided into nine annual periods.

3. Each State Party shall destroy not less than one ninth of its stockpile [in measure of stockpile equivalent and/or equivalent mustard weight] during each destruction period. 1/ 2/ However, a State Party is not precluded from destroying its stocks at a faster pace. Each State Party shall determine its detailed plans for each destruction period, as specified in part III of this Annex and shall report annually on the implementation of each destruction period. 3/

4. Order of Destruction (to be elaborated). 4/ 5/

1/ It is considered necessary to elaborate a method for comparing different categories of chemical weapons stocks. The comparison of lethal and harmful chemicals remains unresolved and is subject to further consideration.

2/ Some delegations expressed the view that the question of the regulation of the destruction of stockpiles needs further and full discussion.

3/ It has been recognized that the destruction of chemical weapons stocks and the elimination of relevant production facilities should be considered together.

4/ Some delegations feel that it would be appropriate to introduce the idea of security stockpile levels to meet the security concerns of countries with small stockpiles of chemical weapons.

5/ Some delegations drew attention to the proposal contained in CD/822 of 29 March 1988. This proposal is aimed at ensuring the undiminished security of all States during the destruction stage. To this end, it proceeds from the basic undertaking that all CW production shall cease immediately upon entry into force of the Convention and that all chemical weapons storage sites as well as production facilities will be subject from the outset to systematic international on-site verification.

Taking account of existing discrepancies in CW stocks it suggests a specific phased approach, according to which State Parties with large CW stocks are to proceed with the destruction of their stockpile until an agreed level is reached in the first phase. In their view, it is only after the end of this first phase, which would result at the end of the fifth year in the levelling out of the large CW stockpiles, that State Parties with smaller stockpiles would be required to start with the destruction of their stocks. The whole two phased destruction period would be subject to close monitoring.

V. INTERNATIONAL VERIFICATION OF THE DESTRUCTION OF CHEMICAL WEAPONS

1. The purpose of verification of destruction of chemical weapons shall be:

- to confirm the identity and quantity of the chemical weapons stocks to be destroyed, and

- to confirm that these stocks for all practical purposes have been destroyed.

2. General plans for destruction of chemical weapons

The general plan for destruction of chemical weapons, submitted pursuant to Article IV shall specify:

(a) a general schedule for destruction, giving types and quantities of chemical weapons planned to be destroyed in each period;

(b) the number of chemical weapons destruction facilities existing or planned, to be operated over the 10 years destruction period;

(c) for each existing or planned chemical weapons destruction facility:

- name and address;

- location;

- chemical weapons intended to be destroyed;

- method of destruction;

- capacity;

- expected period of operation;

- products of the destruction process.

3. Detailed plans for destruction of chemical weapons

The detailed plans submitted pursuant to Article IV, six months before each destruction period, shall specify:

(a) the aggregate quantity of each individual type of chemical weapons planned to be destroyed at each facility;

(b) the number of chemical weapons destruction facilities and a detailed schedule for the destruction of chemical weapons at each of these facilities;

(c) data about each destruction facility,

- name, postal address, geographical location;

- method of destruction;

- end-products;

- layout plan of the facility;

- technological scheme;

- operation manuals;

- the system of verification;

- safety measures in force at the facility;

- living and working conditions for the International Inspectors.

(d) data about any storage facility at the destruction facility planned to provide chemical weapons directly to it during the destruction period,

- layout plan of the facility;

- method and volume of storage estimated by types and quantities of chemical weapons;

- types and quantities of chemical weapons to be stored at the facility during the destruction period;

- safety measures in force at the facility.

(e) After the submission of the first detailed plans, subsequent annual plans should contain only changes and additions to required data elements submitted in the first detailed plans.

4. Review of detailed plans for the destruction of chemical weapons

(a) On the basis of the detailed plan for destruction and proposed measures for verification submitted by the State Party, and as the case may be, on experience from previous inspections and on the relevant agreement(s) on subsidiary arrangements, the Technical Secretariat shall prepare before each destruction period, a plan for verifying the destruction of chemical weapons, consulting closely with the State Party. Any differences between the Technical Secretariat and the State Party should be resolved through consultations. Any unresolved matters shall be forwarded to the Executive Council for appropriate action with a view to facilitating the full implementation of the Convention.

(b) The agreed combined detailed plans for destruction and verification plans, with an appropriate recommendation by the Technical Secretariat, will be forwarded to the members of the Executive Council for review. The members of the Executive Council shall review the plans with a view to approving them, consistent with verification objectives. This review is designed to determine that the destruction of chemical weapons, as planned, is consistent with the obligations under the Convention and the objective of destroying the chemical weapons. It should also confirm that verification schemes for destruction are consistent with verification objectives, and are efficient and workable. This review should be completed 60 days before the destruction period.

(c) Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the combined plan for destruction and verification. If there are no objections by any members of the Executive Council, the plan shall be put into action.

(d) If there are any difficulties, the Executive Council shall enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved they should be referred to the Conference of the States Parties.

(e) After a review of the detailed plans of destruction of chemical weapons, the Technical Secretariat, if the need arises, will enter into consultation with the State Party concerned in order to ensure its chemical weapons destruction facility(ies) is (are) designed to assure destruction of chemical weapons, to allow advanced planning on how verification measures may be applied and to ensure that the application of verification measures is consistent with proper facility(ies) operation, and that the facility(ies) operation allows appropriate verification.

(f) Destruction and verification should proceed according to the agreed plan as referred to above. Such verification should not interfere with the destruction process.

5. Agreements on subsidiary arrangements

For each destruction facility, States Parties should conclude with the Organization detailed agreements on subsidiary arrangements for the systematic verification of destruction of chemical weapons. Such agreements shall be based on a Model Agreement and shall specify, for each destruction facility, the detailed on-site inspection procedures and arrangements for the removal of chemical weapons from the storage facility at the destruction facility, transport from this storage facility to their destruction and the monitoring by on-site instruments, taking into account the specific characteristics of the destruction facility and its mode of operation. The Model Agreement shall include provisions to take into account the need for maintenance and modifications.

6. International Inspectors will be granted access to each chemical weapons destruction facility [30 days] prior to commencement of active destruction phases for the purpose of carrying out an engineering review of the facility, including the facility's construction and layout, the equipment and instruments for measuring and controlling the destruction process, and the checking and testing of the accuracy of the verification equipment.

7. Systematic international on-site verification of destruction of chemical weapons

(a) The Inspectors will be granted access to conduct their activities at the chemical weapons destruction facilities and the chemical weapons storage facilities thereat during the entire active phase of destruction. They will conduct their activities in the presence and with the co-operation of representatives of the facility's management and the National Authority if they wish to be present.

(b) The Inspectors may monitor by either physical observation or devices:

(i) the chemical weapons storage facility at the destruction facility and the chemical weapons present;

(ii) the movement of chemical weapons from the storage facility to the destruction facility;

(iii) the process of destruction (assuring that no chemical weapons are diverted);

(iv) the material balance; and

(v) the accuracy and calibration of the instruments.

(c) To the extent consistent with verification needs, verification procedures should make use of information from routine facility operations.

(d) After the completion of each period of destruction, the Technical Secretariat shall certify the declaration of the National Authority, reporting the completion of destruction of the designated quantity of chemical weapons.

(e) International Inspectors shall, in accordance with agreements on subsidiary arrangements:

- have unimpeded access to all parts of the destruction facilities, and the storage facilities thereat, any munitions, devices, bulk containers, or other containers, therein. While conducting their activity, Inspectors shall comply with the safety regulations at these facilities. The items to be inspected will be chosen by the Inspectors in accordance with the verification plan that has been agreed to by the State Party and approved by the Executive Council;

- bring with them and use such agreed instruments as may be necessary for the completion of their tasks;

- monitor the systematic on-site analysis of samples during the destruction process;

- receive, if necessary, samples taken at their request from any devices, bulk containers and other containers at the destruction facility or the storage facility thereat. Such samples will be taken and analysed by representatives of the State Party in the presence of the Inspectors;

- communicate freely with the Technical Secretariat;

- if necessary, transfer samples for analysis off-site at a laboratory designated by the Organization, 1/ in accordance with agreed procedures;

1/ The designation of the organ of the Organization that will be entrusted with this task will be considered further and specified in the text.

- ensure, in accordance with agreed procedures, that samples transported, stored and processed are not tampered with;

- afford the opportunity to the host State Party to be present when samples are analysed.

(f) The State Party receiving the inspection shall, in accordance with agreed procedures:

- have the right to accompany the International Inspectors at all times during the inspection and observe all their verification activities at the destruction facility, and the storage facility thereat;

- have the right to retain duplicates of all samples taken at the Inspectors' request and be present when samples are analysed;

- have the right to inspect any agreed standard instrument used or installed by the International Inspectors and to have it tested in the presence of its personnel;

- provide assistance to the International Inspectors, upon their request, for the installation of seals or monitoring devices and the analysis of samples on-site as appropriate to the monitoring of the destruction process;

- receive copies of the reports on inspections of its destruction facility(ies);

- receive copies, at its request, of the information and data gathered about its destruction facility(ies) by the Technical Secretariat.

(g) If Inspectors detect irregularities which may give rise to doubts they will report the irregularities to the representatives of the facility and the National Authority and request that the situation be resolved. Uncorrected irregularities will be reported to the Executive Council.

(h) After each inspection to the destruction facility, International Inspectors shall submit a report with their findings to the (Director-General of the) Technical Secretariat which will transmit a copy of this report to the State Party having received the inspection.

8. Chemical weapons storage facilities at chemical weapons destruction facilities

(a) International Inspectors shall verify any arrival of chemical weapons at a chemical weapons storage facility at a chemical weapons destruction facility, as referred to in paragraph 6 (d) of section II of this Annex, and the storing of these chemical weapons. They shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons in this storage facility. They shall install such agreed seals as may be necessary to verify that stocks are removed only for destruction.

(b) As soon and as long as chemical weapons are stored at chemical weapons storage facilities at chemical weapons destruction facilities, these storage facilities shall be subject to international systematic monitoring, as referred to in relevant provisions of paragraph 5 of section II of the present Annex, in conformity with the relevant agreements on subsidiary arrangements or, if no such agreement has been concluded, with the agreed combined plan for destruction and verification.

(c) The International Inspectors will make any appropriate adjustments in the monitoring system in accordance with the relevant agreement on subsidiary arrangements whenever inventory changes occur.

(d) At the end of an active destruction phase, International Inspectors will make an inventory of the chemical weapons that have been removed from the storage facility to be destroyed. They shall verify the accuracy of the inventory of the chemical weapons remaining employing inventory control procedures as referred to above under (a). They shall install such agreed seals as may be necessary to ensure the securing of the storage facility.

(e) The international systematic monitoring of a chemical weapons storage facility at a chemical weapons destruction facility may be discontinued when the active destruction phase is completed, if no chemical weapons remain. If, in addition, no chemical weapons are planned to be stored at this facility, the international systematic monitoring shall be terminated in accordance with section II, paragraph 5 (g) of this Annex.

ANNEX TO ARTICLE V

I. DECLARATIONS AND REPORTS ON CHEMICAL WEAPONS PRODUCTION FACILITIES

A. Declarations of chemical weapons production facilities

The declaration should contain for each facility:

1. Name and exact location.

2. Ownership, operation, control, who ordered and procured the facility.

3. Designation of each facility:

(a) Facility for producing chemicals defined as chemical weapons.

(b) Facility for filling chemical weapons.

4. Products of each facility and dates that they were produced:

(a) Chemicals produced.

(b) Munitions or devices filled, identity of chemical fill.

5. Capacity of the facility, expressed in terms of:

(a) The quantity of end-product that the facility can produce in (period), assuming the facility operates (schedule).

(b) The quantity of chemical that the facility can fill into each type of munition or device in (period), assuming that the facility operates (schedule).

6. Detailed facility description:

(a) Layout of the facility.

(b) Process flow diagram.

(c) Detailed inventory of equipment, buildings and any spare or replacement parts on site.

(d) Quantities of any chemicals or munitions on site.

B. Declarations of former chemical weapons production facilities 1/

The declaration should contain for each facility:

1. All information as in paragraph A, above, that pertains to the operation of the facility as a chemical weapons facility.

1/ All provisions dealing with "former" chemical weapons production facilities need to be reviewed once the definition of chemical weapons production facilities is agreed. In this connection, how to deal with chemical weapons production facilities that have previously been destroyed should also be discussed.

2. Date chemical weapons production ceased.

3. Current status of special equipment that was used for chemical weapons production.

4. Dates of conversion from CW use, date of beginning of non-CW use.

5. Current ownership, operation and control.

6. Current production, stating types and quantities of product(s).

7. Current capacity of the facility, expressed in terms of the quantity of end-product that can be produced in (period), assuming the facility operates (schedule).

8. Current detailed facility description:

(a) Layout of the facility.

(b) Process flow diagram.

(c) Location of any CW-specific equipment remaining on-site.

(d) Quantities of any chemical weapons remaining on-site.

C. Declarations of chemical weapons production facilities under the control of others on the territory of the State Party

- Responsibility for declarations (to be discussed).

- All elements contained in part IA of this Annex should be declared.

D. Declarations of former chemical weapons production facilities under the control of others on the territory of the State Party 1/

- Responsibility for declarations (to be discussed).

- All elements contained in part IB of this Annex should be declared.

E. Declarations of transfers

1. Chemical weapons production equipment means (to be developed).

2. The declaration should specify:

(a) who received/transferred chemical weapons production equipment [and technical documentation];

1/ All provisions dealing with "former" chemical weapons production facilities need to be reviewed once the definition of chemical weapons production facilities is agreed. In this connection, how to deal with chemical weapons production facilities that have been previously destroyed should also be discussed.

(b) the identity of the equipment;

(c) date of transfer;

(d) whether the chemical weapons production equipment [and documentation] were eliminated, if known;

(e) current disposition, if known.

F. Declarations of measures to ensure closure of:

1. Facilities under the jurisdiction or control of the State Party (to be developed).

2. Facilities on the State Party's territory under the control of others (to be developed).

G. Annual Reports (to be developed)

H. Final Certification of Destruction (to be developed)

II. PRINCIPLES AND METHODS OF DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

A. General

Each State Party shall decide on methods to be applied for the destruction 1/ of its chemical weapons production facilities, according to the principles laid down in Article V and in this Annex. 2/

B. Closure and methods for closing the facility

1. The purpose of the closure of a chemical weapons production facility is to render it inoperable as such.

2. Agreed measures for closure will be taken by the State Party with due regard to the specific characteristics of each facility. Such measures shall include, inter alia: 3/

- prohibition of occupation of buildings except for agreed activities;

- disconnection of equipment directly related to the production of chemical weapons to include, inter alia, process control equipment and utilities;

1/ Further discussion is needed of possible methods of destruction and of related definitions.

2/ The responsibility for carrying out measures when more than one State is involved needs to be discussed.

3/ The activities and items in these measures will need further elaboration and discussion in light of methods of destruction and characteristics of specific facilities.

- disabling of protective installations and equipment used exclusively for the safety of operations of the chemical weapons production facility;

- interruption of rail and other roads to the chemical weapons production facility except those required for agreed activities.

3. While the chemical weapons production facility remains closed, the State Party may continue safety activities at the facility.

C. Activities related to destruction

1. Destruction of equipment covered by the definition of a "chemical weapons production facility"

- All specialized and standard equipment shall be physically destroyed.

- "Specialized equipment" is:

  . the main production train, including any reactor or equipment for product synthesis, separation or purification, any equipment used directly for heat transfer in the final technological stage (for example, in reactors or in product separation), as well as any other equipment which has been in contact with any Schedule 1 chemical, or any other chemical that has no use for permitted purposes above ... kilograms per year but can be used for chemical weapons purposes, or would be if the facility were operated.

  . any chemical weapon filling machines.

  . any other equipment specially designed, built or installed for the operation of the facility as a chemical weapons production facility, as distinct from a facility constructed according to prevailing commercial industry standards for facilities not producing super-toxic lethal or corrosive chemicals. (Examples include equipment made of high-nickel alloys or other special corrosion-resistant material; special equipment for waste control, waste treatment, air filtering, or solvent recovery; special containment enclosures and safety shields; non-standard laboratory equipment used to analyse toxic chemicals for chemical weapons purposes; custom-designed process control panels; dedicated spares for specialized equipment.)

- "Standard equipment" includes:

  . production equipment which is generally used in the chemical industry and is not included in the types of "specialized equipment";

  . other equipment commonly used in the chemical industry, such as fire-fighting equipment, guard and security/safety surveillance equipment, medical facilities, laboratory facilities, communications equipment.

2. Destruction of buildings covered by the definition of a "chemical weapons production facility"

- The word "building" shall include underground structures.

- All specialized and standard buildings shall be physically destroyed.

- "Specialized building" is:

  . any building containing specialized equipment in a production or filling configuration;

  . any building which has distinctive features which distinguish it from buildings normally used for chemical production or filling activities not banned by the convention.

- "Standard buildings" means buildings constructed to prevailing industry standards for facilities not producing super-toxic lethal or corrosive chemicals.

3. Facilities for producing unfilled chemical munitions and specialized equipment for chemical weapons employment

- Facilities used exclusively for production of: (a) non-chemical parts for chemical munitions or (b) specialized equipment for chemical weapons employment, shall be declared and eliminated. The elimination process and its verification should be conducted according to the provisions of Article V that govern destruction of chemical weapons production facilities.

- All equipment designed or used exclusively for producing non-chemical parts for chemical munitions shall be physically destroyed. Such equipment, which includes specially-designed moulds and metal-forming dies, may be brought to a special location for destruction. International Inspectors shall be present during the destruction process.

- All buildings and standard equipment used for such production activities shall be converted to permitted purposes, with confirmation as necessary through consultations or challenge inspection.

- Permitted activities may continue while destruction or conversion proceeds.

D. Activities related to temporary conversion to destruction facility (to be developed)

E. Activities related to former chemical weapons production facilities 1/

1/ All provisions dealing with "former" chemical weapons production facilities need to be reviewed once the definition of chemical weapons production facilities is agreed. In this connection, how to deal with chemical weapons production facilities that have previously been destroyed should also be discussed.

III. ORDER OF DESTRUCTION (to be developed)

IV. PLANS

A. General Plans

1. For each facility the following information should be supplied:

(a) envisaged time-frame for measures to be taken;

(b) methods of destruction.

2. In relation to temporary conversion into chemical weapons destruction facility:

(i) envisaged time-frame for conversion into a destruction facility;

(ii) envisaged time for utilizing the facility as a destruction facility;

(iii) description of the new facility;

(iv) method of destruction of special equipment;

(v) time-frame for destruction of the converted facility after it has been utilized to destroy chemical weapons;

(vi) method of destruction of the converted facility.

3. In relation to former chemical weapons production facilities (to be elaborated). 1/

B. Detailed plans

1. The detailed plans for destruction of each facility should contain:

(a) detailed time schedule of destruction process;

(b) layout of the facility;

(c) process flow diagram;

(d) detailed inventory of equipment, buildings and other items to be destroyed;

(e) measures to be applied to each item on the inventory;

(f) proposed measures for verification;

1/ All provisions dealing with "former" chemical weapons production facilities need to be reviewed once the definition of chemical weapons production facilities is agreed. In this connection, how to deal with chemical weapons production facilities that have previously been destroyed should also be discussed.

(g) security/safety measures to be observed during the destruction of the facility;

(h) working and living conditions to be provided for International Inspectors.

2. In relation to the temporary conversion into a chemical weapons destruction facility.

In addition to the information contained in part IV.B.1 of this Annex the following information should be provided:

(i) method of conversion into a destruction facility;

(ii) data on the destruction facility, in accordance with the Annex to Article IV, part V.3.(c) and (d).

3. In relation to destruction of a facility that was temporarily converted for destruction of chemical weapons, information should be provided in accordance with part IV.B.1 of this Annex.

4. In relation to former chemical weapons production facilities. 1/

V. INTERNATIONAL VERIFICATION OF DECLARATIONS OF CHEMICAL WEAPONS PRODUCTION FACILITIES AND THEIR CLOSURE, INTERNATIONAL SYSTEMATIC MONITORING, INTERNATIONAL SYSTEMATIC VERIFICATION OF DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES 2/

1. International verification of declarations of chemical weapons production facilities and of cessation of their activities

(a) International verification by initial on-site inspections

(i) The purpose of the international verification of declarations of chemical weapons production facilities shall be:

- to confirm that all activity has ceased except that required for closure;

- to confirm through on-site inspections the accuracy of the declarations made in accordance with Article V.

1/ All provisions dealing with "former" chemical weapons production facilities need to be reviewed once the definition of chemical weapons production facilities is agreed. In this connection, how to deal with chemical weapons production facilities that have previously been destroyed should also be discussed.

2/ This Section of this Annex will require further discussion and elaboration upon resolution of the definitions of chemical weapons, chemical weapons production facilities, and methods of destruction.

(ii) The International Inspectors shall conduct this initial verification promptly, and in any event not later than [60] days after a declaration is submitted.

(iii) They shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the declared items at each chemical weapons production facility.

(iv) International Inspectors shall install such agreed devices as may be necessary to indicate if any resumption of production of chemical weapons occurs or if any declared item is removed. They shall take the necessary precaution not to hinder closure activities by the State Party. International Inspectors may return to maintain and verify the integrity of the devices.

(b) Co-ordination for international systematic monitoring of chemical weapons production facilities

In conjunction with the initial on-site inspections to verify declarations of chemical weapons production facilities, the International Inspectors shall undertake necessary co-ordination for measures of systematic vonitoring of these facilities as provided for in paragraph 4, below.

2. Agreements on subsidiary arrangements 1/

(a) Within [6] months after entry into force of the Convention, States Parties shall conclude with the Organization detailed agreements on subsidiary arrangements for the systematic monitoring of their chemical weapons production facilities. Such agreements shall be based on a Model Agreement and shall specify for each production facility the detailed inspection procedures and arrangements for the installation, operation and maintenance of the seals and monitoring devices by the Technical Secretariat, taking into account the specific characteristics of each facility. The Model Agreement shall include provisions to take into account future technological developments.

(b) States Parties shall ensure that the verification of declarations of chemical weapons production facilities and the initiation of systematic monitoring can be accomplished by the Technical Secretariat at all such facilities within the agreed time-frames after the Convention enters into force. 2/

1/ The coverage of the subsidiary arrangements is to be discussed.

2/ Procedures to ensure the implementation of the verification scheme within designated time-frames are to be developed.

3. International verification of closure of chemical weapons production facilities

Subsequent to the on-site verification of declarations as referred to in paragraph 1, the International Inspectors shall conduct on-site inspections at each chemical weapons production facility for the purpose of verifying that measures referred to under (II.B.2) have been accomplished.

4. International systematic monitoring of chemical weapons production facilities

(a) The purpose of the international systematic monitoring of a chemical weapons production facility shall be to ensure that no resumption of production of chemical weapons nor removal of declared items would go undetected at this facility.

(b) The international systematic monitoring shall be initiated as soon as possible after the closure of the chemical weapons production facility and shall continue until this facility is destroyed. Systematic monitoring shall be ensured, in accordance with the agreements on subsidiary arrangements, through a combination of continuous monitoring with on-site instruments and systematic verification by international on-site inspections or, where the continuous monitoring with on-site instruments is not feasible, by the presence of International Inspectors.

(c) In conjunction with the on-site verification of the closure of chemical weapons production facilities referred to in paragraph 4 above and, if the relevant agreement on subsidiary arrangements for the systematic monitoring of a chemical weapons production facility has been concluded, International Inspectors shall install for the purpose of this systematic monitoring a monitoring system as referred to under (e) below. If no such agreement has been concluded, the International Inspectors will initiate the systematic monitoring by their continuous presence on-site until the agreement is concluded, and the monitoring system installed and activated.

(d) In the period before the activation of the monitoring system and at other times when the continuous monitoring with on-site instruments is not feasible, devices installed by International Inspectors, in accordance with paragraph 1 above, may only be removed in the presence of an International Inspector. If an extraordinary event results in, or requires, the removal of a device when an Inspector is not present, a State Party shall immediately inform the Technical Secretariat and International Inspectors will return as soon as possible to validate the inventory and re-establish the devices.

(e) Monitoring with instruments

(i) For the purpose of the systematic monitoring of a chemical weapons production facility, International Inspectors will install, in the presence of host country personnel and in conformity with the relevant agreement on subsidiary arrangements, a monitoring system consisting of, inter alia, sensors, ancillary equipment and transmission systems. The agreed types of these instruments shall be specified in the Model Agreement. They shall incorporate, inter alia, seals and other tamper-indicating and tamper-resistant devices as well as data protection and data authentication features.

(ii) The monitoring system shall have such abilities and be installed, adjusted or directed in such a way as to correspond strictly and efficiently to the sole purpose of detecting prohibited or unauthorized activities within the chemical weapons production facility as referred to above under (a). The coverage of the monitoring system shall be limited accordingly. The monitoring system will signal the Technical Secretariat if any tampering with its components or interference with its functioning occurs. Redundancy shall be built into the monitoring system to ensure that failure of an individual component will not jeopardize the monitoring capability of the system.

(iii) When the monitoring system is activated, International Inspectors will verify the accuracy of the inventory of declared items at each chemical weapons production facility as required.

(iv) Data will be transmitted from each production facility to the Technical Secretariat by (means to be determined). The transmission system will incorporate frequent transmissions from the production facility and a query and response system between the production facility and the Technical Secretariat. International Inspectors shall periodically check the proper functioning of the monitoring system.

(v) In the event that the monitoring system indicates any irregularity, the International Inspectors would immediately determine whether this resulted from equipment malfunction or activities at the production facility. If, after this examination the problem remained unresolved, the Technical Secretariat would immediately ascertain the actual situation, including through immediate on-site inspection or visit of the production facility if necessary. The Technical Secretariat shall report any such problem immediately after its detection to the State Party who should assist in its resolution.

(vi) The State Party shall immediately notify the Technical Secretariat if an event at the production facility occurs, or may occur, which may have an impact on the monitoring system. The State Party shall co-ordinate subsequent actions with the Technical Secretariat with a view to restoring the operation of the monitoring system and establishing interim measures, if necessary, as soon as possible.

(f) Systematic on-site inspections and visits

(i) During each inspection, the International Inspectors will verify that the monitoring system is functioning correctly and verify the declared inventory as required. In addition, visits to service the monitoring system will be required to perform any necessary maintenance or replacement of equipment, or to adjust the coverage of the monitoring system as required.

(ii) (The guidelines for determining the frequency of systematic on-site inspections are to be elaborated.) The particular production facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected.

5. International verification of destruction of chemical weapons production facilities

(a) The purpose of international verification of destruction of chemical weapons production facilities shall be to confirm that the facility is destroyed as such in accordance with the obligations under the Convention and that each item on the declared inventory is destroyed in accordance with the agreed detailed plan for destruction.

(b) [3-6] months before destruction of a chemical weapons production facility, a State Party shall provide to the Technical Secretariat the detailed plans for destruction to include proposed measures for verification of destruction referred to in Section IV.B.1 (f) of the present Annex, with respect to, e.g.:

- timing of the presence of the Inspectors at the facility to be destroyed;

- procedures for verification of measures to be applied to each item on the declared inventory;

- measures for phasing out systematic monitoring or for adjustment of the coverage of the monitoring system.

(c) On the basis of the detailed plan for destruction and proposed measures for verification submitted by the State Party, and on experience from previous inspections, the Technical Secretariat shall prepare a plan for verifying the destruction of the facility, consulting closely with the State Party. Any differences between the Technical Secretariat and the State Party concerning appropriate measures should be resolved through consultations. Any unresolved matters shall be forwarded to the Executive Council 1/ for appropriate action with a view to facilitating the full implementation of the Convention.

(d) To ensure that the provisions of Article V and this Annex are fulfilled, the combined plans for destruction and verification shall be agreed upon between the Executive Council and the State Party. This agreement should be completed [60] days before the planned initiation of destruction.

(e) Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the combined plan for destruction and verification. If there are no objections by any members of the Executive Council, the plan shall be put into action.

(f) If there are any difficulties, the Executive Council should enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved they should be referred to the Conference of the States Parties. The resolution of any differences over methods of destruction should not delay the execution of other parts of the destruction plan that are acceptable.

1/ The role of the Executive Council in the review process will need to be reviewed in the light of its composition and decision-making process.

(g) If agreement is not reached with the Executive Council on aspects of verification, or if the approved verification plan cannot be put into action, verification of destruction will proceed by the continuous on-site monitoring and presence of Inspectors.

(h) Destruction and verification should proceed according to the agreed plan. The verification should not unduly interfere with the destruction process and should be conducted through the presence of on-site Inspectors to witness the destruction. 1/

(i) If required verification or destruction actions are not taken as planned, all States Parties should be so informed. (Procedures to be developed.)

(j) For those items that may be diverted for permitted purposes. 2/

(k) When all items on the declared inventory have been destroyed, the Technical Secretariat shall certify, in writing, the declaration of the State Party to that effect. After this certification, the Technical Secretariat shall terminate the international systematic monitoring of the chemical weapons production facility and will promptly remove all devices and monitoring equipment installed by the International Inspectors.

(l) After this certification, the State Party will make the declaration that the facility has been destroyed.

6. International verification of temporary conversion of a chemical weapons production facility into a chemical weapons destruction facility

(to be elaborated)

7. Inspections and visits

(a) The (Director-General of the) Technical Secretariat shall notify the State Party of its decision to inspect or visit a chemical weapons production facility 48 hours prior to the planned arrival of the inspection team at the facility for systematic inspections or visits. In the event of inspections or visits to resolve urgent problems, this period may be shortened. The (Director-General of the) Technical Secretariat shall specify the purpose(s) of the inspection or visit.

(b) A State Party shall make any necessary preparations for the arrival of the Inspectors and shall ensure their expeditious transportation from their point of entry on the territory of the State Party to the chemical weapons production facility. The agreement on subsidiary arrangements will specify administrative arrangements for Inspectors.

1/ This verification measure may not necessarily be the only one and others, as appropriate, may need to be further elaborated.

2/ Specification of the items, permitted purposes and methods of verification of disposition will need to be elaborated.

(c) International Inspectors shall, in accordance with agreements on subsidiary arrangements:

- have unimpeded access to all parts of the chemical weapons production facilities. While conducting their activity, Inspectors shall comply with the safety regulations at the facility. The items on the declared inventory to be inspected will be chosen by the Inspectors;

- bring with them and use such agreed instruments as may be necessary for the completion of their tasks;

- communicate freely with the Technical Secretariat.

(d) The State Party receiving the inspection shall, in accordance with agreed procedures:

- have the right to accompany the International Inspectors at all times during the inspection and observe all their verification activities at the chemical weapons production facility;

- have the right to inspect any instrument used or installed by the International Inspectors and to have it tested in the presence of State Party personnel;

- provide assistance to the International Inspectors upon their request for the installation of the monitoring system;

- receive copies of the reports on inspections of its chemical weapons production facility(ies);

- receive copies, at its request, of the information and data gathered about its chemical weapons production facility(ies) by the Technical Secretariat.

(e) The International Inspectors 1/ may request clarification of any ambiguities arising from the inspection. In the event that any ambiguities arise which cannot be resolved in the course of the inspections, the Inspectors shall inform the (Director-General of the) Technical Secretariat immediately.

(f) After each inspection or visit to the chemical weapons production facility, International Inspectors shall submit a report with their findings to the (Director-General of the) Technical Secretariat which will transmit a copy of this report to the State Party having received the inspection or visit.

1/ The question of whether or not an individual Inspector shall have the rights set out in this and the following paragraph remains open.

ANNEX 1 TO ARTICLE VI

Régime for chemicals on Schedule 1

GENERAL PROVISIONS

1. A State Party shall not produce, acquire, retain, transfer or use chemicals in Schedule 1 unless:

(i) the chemicals are applied to research, medical, pharmaceutical or protective purposes, and

(ii) the types and quantities of chemicals are strictly limited to those which can be justified for such purposes, and

(iii) the aggregate amount of such chemicals at any given time for such purposes is equal to or less than one metric tonne, and

(iv) the aggregate amount for such purposes acquired by a State Party in any calendar year through production, withdrawal from chemical weapons stocks and transfer is equal to or less than one metric tonne.

TRANSFERS

2. A State Party may transfer chemicals in Schedule 1 outside its territory only to another State Party and only for research, medical, pharmaceutical or protective purposes in accordance with paragraph 1.

3. Chemicals transferred shall not be retransferred to a third State.

4. Thirty days prior to any transfer to another State Party both States Parties shall notify the Technical Secretariat.

5. Each State Party shall make a detailed annual declaration regarding transfers during the previous calendar year. The declaration shall be submitted within ... months after the end of that year and shall for each chemical in Schedule 1 include the following information:

(i) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(ii) the quantity acquired from other States or transferred to other States Parties. For each transfer the quantity, recipient and purpose should be included.

PRODUCTION

1. Each State Party which produces chemicals in Schedule 1 for research, medical, pharmaceutical or protective purposes shall carry out the production at a single small-scale facility approved by the State Party, the only exceptions being those set forth in paragraphs 2 and 3 below.

The production at a single small-scale facility shall be carried out in reaction vessels not designed for continuous operation with a volume not in excess of [10] [100] litres.

2. (a) Production of Schedule 1 chemicals in aggregate quantities not exceeding 10 kg per year may be carried out for protective purposes at one facility outside a single small-scale facility.

(b) Production of Schedule 1 chemicals in quantities of more than 100 g per year may be carried out for research, medical or pharmaceutical purposes outside a single small-scale facility in aggregate quantities not exceeding 10 kg per year per facility. 1/

Such facilities shall be approved by the State Party.

3. Synthesis of Schedule 1 chemicals for research, medical or pharmaceutical purposes, but not for protective purposes, may be carried out at laboratories 2/ [approved by the State Party] in aggregate quantities less than 100 g per year per facility. 3/

SINGLE SMALL-SCALE FACILITY

I. Declarations

A. Initial declarations

Each State Party which plans to operate such a facility shall provide the Technical Secretariat with the location and a detailed technical description of the facility, including an inventory of equipment and detailed diagrams. For existing facilities, this information shall be provided not later than 30 days after the Convention enters into force for the State Party. Information on new facilities shall be provided six months before operations are to begin.

1/ A view was expressed that ultratoxic substances (to be determined) shall not be allowed to be produced in excess of 10 g per year.

2/ A view was expressed that if so requested by the Technical Secretariat detailed information shall be submitted.

3/ The question whether transfer of Schedule 1 chemicals from a laboratory should be permitted or not needs further discussion.

B. Advance notifications

Each State Party shall give advance notification to the Technical Secretariat of planned changes related to the initial declaration. The notification shall be submitted not later than ... months before the changes are to take place.

C. Annual declarations

(a) Each State Party possessing a facility shall make a detailed annual declaration regarding the activities of the facility for the previous calendar year. The declaration shall be submitted within ... months after the end of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule 1 produced, acquired, consumed or stored at the facility, the following information:

(i) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(ii) the methods employed and quantity produced;

(iii) the name and quantity of precursor chemicals listed in Schedules 1, 2, Part A or 3 used for production of chemicals in Schedule 1;

(iv) the quantity consumed at the facility and the purpose(s) of the consumption;

(v) the quantity received from or shipped to other facilities within the State Party. For each shipment the quantity, recipient and purpose should be included;

(vi) the maximum quantity stored at any time during the year;

(vii) the quantity stored at the end of the year.

3. Information on any changes at the facility during the year compared to previously submitted detailed technical descriptions of the facility including inventories of equipment and detailed diagrams.

(b) Each State Party possessing a facility shall make a detailed annual declaration regarding the projected activities and the anticipated production at the facility for the coming calendar year. The declaration shall be submitted not later than ... months before the beginning of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule 1 produced, consumed or stored at the facility, the following information:

(i) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(ii) the quantity anticipated to be produced and the purpose of the production.

3. Information on any anticipated changes at the facility during the year compared to previously submitted detailed technical descriptions of the facility including inventories of equipment and detailed diagrams.

II. Verification

1. The aim of verification activities at the facility shall be to verify that the quantities of Schedule 1 chemicals produced are correctly declared and, in particular, that their aggregate amount does not exceed one metric tonne.

2. The single small-scale facility shall be subject to systematic international on-site verification, through on-site inspection and monitoring with on-site instruments.

3. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the objectives of the Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out there. The guidelines to be used shall include: (to be developed).

4. Each facility shall receive an initial visit from international inspectors promptly after the facility is declared. The purpose of the initial visit shall be to verify information provided concerning the facility, including verification that the reaction vessels are not designed for continuous operation and that they do not have a volume in excess of [10] [100] litres. The purpose of the initial visit shall also be to obtain any additional information needed for planning future verification activities at the facility, including inspection visits and use of on-site instruments.

5. Within [3] [6] [12] 1/2/ months after the entry into force of the Convention each State Party possessing a facility shall conclude an agreement, 3/ based on a model for an agreement, with the Organization, covering detailed inspection procedures for the facility. 4/

Each State Party planning to establish such a facility after the entry into force of the Convention shall conclude an agreement with the Organization before the facility begins operation or is used.

Each agreement shall include: (to be developed).

1/ The view was expressed that the time periods for conclusion of arrangements for different types of facility subject to inspection under the Convention should be rationalized.

2/ A view was expressed that in light of the need for provisional inspection procedures, pending conclusion of the agreement, 12 months is an undue length of time.

3/ The view was expressed that negotiations on this agreement should commence immediately after the signing of the Convention.

4/ The view was expressed that pending conclusion of the agreement between a State Party and the Organization there would be a need for provisional inspection procedures to be formulated.

FACILITIES COVERED BY PARAGRAPH 2 OF THE SECTION ON PRODUCTION ABOVE

I. Declarations

A. Initial declarations

Each State Party shall provide the Technical Secretariat with the name, location and a detailed technical description of each facility or its relevant part(s) as requested by the Technical Secretariat. The facility producing Schedule 1 chemicals for protective purposes shall be specifically identified. For existing facilities, this information shall be provided not later than 30 days after the Convention enters into force for the State Party. Information on new facilities shall be provided not less than ... before operations are to begin.

B. Advance notifications

Each State Party shall give advance notification to the Technical Secretariat of planned changes related to the initial declaration. The notification shall be submitted not later than ... before the changes are to take place.

C. Annual declarations

(a) Each State Party shall, for each facility, make a detailed annual declaration regarding the activities of the facility for the previous calendar year. The declaration shall be submitted within ... months after the end of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule 1 the following information:

(i) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(ii) the quantity produced;

and, in case of production for protective purposes, methods employed;

(iii) the name and quantity of precursor chemicals listed in Schedules 1, 2, Part A or 3 used for production of chemicals in Schedule 1;

(iv) the quantity consumed at the facility and the purpose of the consumption;

(v) the quantity transferred to other facilities within the State Party. For each transfer the quantity, recipient and purpose should be included;

(vi) the maximum quantity stored at any time during the year;

(vii) the quantity stored at the end of the year.

3. Information on any changes at the facility or its relevant part(s) during the year compared to previously submitted detailed technical description of the facility.

(b) Each State Party shall, for each facility, make a detailed annual declaration regarding the projected activities and the anticipated production at the facility for the coming calendar year. The declaration shall be submitted not later than ... before the beginning of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule 1 the following information:

(i) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(ii) the quantity anticipated to be produced, the time period(s) when the production is anticipated to take place and the purposes of the production.

3. Information on any anticipated changes at the facility or its relevant part(s), during the year compared to previously submitted detailed technical descriptions of the facility.

II. Verification

1. The aim of verification activities at the facility shall be to verify that:

(i) the facility is not used to produce any chemical listed in Schedule 1, except for the declared chemical;

(ii) the quantities of the chemical listed in Schedule 1 produced, processed or consumed are correctly declared and consistent with needs for the declared purpose;

(iii) the chemical listed in Schedule 1 is not diverted or used for other purposes.

2. The facility shall be subject to systematic international on-site verification through on-site inspection and monitoring with on-site instruments.

3. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the objectives of the Convention posed by the quantities of chemicals produced, the characteristics of the facility and the nature of the activities carried out there. The guidelines to be used shall include: (to be developed).

4. Each facility shall receive an initial visit from international inspectors promptly after the facility is declared. The purpose of the initial visit shall be to verify information provided concerning the facility, and to obtain any additional information needed for planning future verification activities at the facility, including inspection visits and use of on-site instruments.

5. Within [3] [6] [12] 1/2/ months after the entry into force of the Convention each State Party possessing such (a) facility (facilities) shall conclude (an) agreement(s), 3/ based on a model for an agreement, with the Organization, covering detailed inspection procedures for the facility (facilities). 4/

Each State Party planning to establish such a facility after the entry into force of the Convention shall conclude an agreement with the Organization before the facility begins operation or is used.

Each agreement shall include: (to be developed).

1/ The view was expressed that the time periods for conclusion of arrangements for different types of facility subject to inspection under the Convention should be rationalized.

2/ A view was expressed that in light of the need for provisional inspection procedures, pending conclusion of the agreement, 12 months is an undue length of time.

3/ The view was expressed that negotiations on this agreement should commence immediately after the signing of the Convention.

4/ The view was expressed that pending conclusion of the agreement between a State Party and the Organization there would be a need for provisional inspection procedures to be formulated.

ANNEX 2 TO ARTICLE VI

Régime 1/ for Chemicals on Schedule 2 Parts A and B

DECLARATIONS

The Initial and Annual Declarations to be provided by a State Party under paragraphs 3 and 4 of Article VI shall include:

1. Aggregate national data on the production, processing and consumption of each chemical listed in Schedule 2, and on the export and import of the chemicals in the previous calendar year with an indication of the countries involved.

2. The following information for each facility which, during the previous calendar year, produced, processed or consumed more than [ ] tonnes of the chemicals listed in Schedule 2 Part A or which produced 1/ at any time since ... a chemical in Schedule 2 for chemical weapons purposes: 2/

[The following information for each facility which, during the previous calendar year, produced, processed or consumed more than [10] [100] [1,000] kg of the chemicals listed in Schedule 2 part B.] 3/

Chemical(s)

(i) The chemical name, common or trade name used by the facility, structural formula, and Chemical Abstracts Service Registry Number (if assigned).

(ii) The total amount produced, consumed, imported and exported in the previous calendar year. 4/

(iii) The purpose(s) for which the chemical(s) are produced, consumed or processed:

(a) conversion on-site (specify product type)

(b) sale or transfer to other domestic industry (specify final product type)

1/ A view was expressed that the question of quantitative thresholds would need to be discussed in this context.

2/ The placement in the Convention of the obligation to declare facilities which produced a chemical in Schedule 2 for chemical weapons purposes needs further consideration. A view was expressed that this obligation should be included in the Annex to Article V.

3/ The view was expressed that the same régime, including thresholds, should apply to both Schedule 2 A and 2 B. Some delegations also expressed the view that the thresholds should correspond to militarily significant quantities.

4/ Whether the total amount is to be expressed as an exact figure or within a range is to be discussed.

(c) export (specify which country)

(d) other.

Facility 1/ 2/

(i) The name of the facility and of the owner, company, or enterprise operating the facility.

(ii) The exact location of the facility (including the address, location of the complex, location of the facility within the complex including the specific building and structure number, if any).

(iii) Whether the facility is dedicated to producing or processing the listed chemical or is multi-purpose.

(iv) The main orientation (purpose) of the facility.

(v) Whether the facility can readily be used to produce a Schedule 1 chemical or another Schedule 2 chemical. Relevant information should be provided, when applicable.

(vi) The production capacity 3/ for the declared Schedule 2 chemical(s).

(vii) Which of the following activities are performed with regard to the Schedule 2 chemicals:

(a) production

(b) processing with conversion into another chemical

(c) processing without chemical conversion

(d) other - specify.

1/ One delegation suggested that, in the case of a multi-purpose facility currently producing Schedule 2 chemicals, the following should be specified:

- general description of the products;
- detailed technological plan of the facility;
- list of special equipment included in the technological plan;
- type of waste treatment equipment;
- description of each final product (chemical name, chemical structure and register number);
- unit capacity for each product;
- use of each product.

2/ The view was expressed that a definition of a chemical production facility was needed and thus should be elaborated.

3/ How to define production capacity remains to be agreed upon. Some consultations with technical experts have taken place on this issue. A report on these consultations is enclosed in Appendix II to facilitate further work by delegations.

(viii) Whether at any time during the previous calendar year declared chemicals were stored on-site in quantities greater than [ ] [tonnes].

Advance notifications

3. (a) Each State Party shall annually notify the Technical Secretariat of facilities which intend, during the coming calendar year, to produce, process or consume more than ... of any chemical listed in Schedule 2. The notification shall be submitted not later than ... months before the beginning of that year and shall for each facility include the following information:

(i) The information specified under paragraph 2 above, except for quantitative information relating to the previous calendar year;

(ii) For each chemical listed in Schedule 2 intended to be produced or processed, the total quantity intended to be produced or processed during the coming calendar year and the time period(s) when the production or processing is anticipated to take place.

(b) Each State Party shall notify the Technical Secretariat of any production, processing or consumption planned after the submission of the annual notification under paragraph 3 (a), not later than one month before the production or processing is anticipated to begin. The notification shall for each facility include the information specified under paragraph 3 (a).

Verification 1/

Aim

4. The aim of the measures stipulated in Article VI, paragraph 6 shall be to verify that:

(i) Facilities declared under this Annex are not used to produce any chemical listed in Schedule 1. 2/

(ii) The quantities of chemicals listed in Schedule 2 produced, processed or consumed are consistent with needs for purposes not prohibited by the Chemical Weapons Convention. 3/

(iii) The chemicals listed in Schedule 2 are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

1/ Some of the provisions contained in this section have general application throughout the Convention. It is understood that the retention of these will be reviewed at a later stage in the negotiations.

2/ It was suggested that "or for any other purposes prohibited by the Convention" should be added.

3/ Opinions were expressed on the need to consider the question of the existence in a facility of excessive capacity for the production of chemicals in Schedule 2.

Obligation and Frequency

5. (i) Each facility notified to the Technical Secretariat under this Annex shall be subject to systematic international on-site verification on a routine basis.

(ii) The number, intensity, duration, timing and mode of inspections and monitoring with on-site instruments for a particular facility shall be based on the risk to the objectives of the Convention posed by the relevant chemical, the characteristics of the facility and the nature of the activities carried out there. 1/ 2/ The guidelines to be used shall include: (to be developed). 3/

Selection

6. The particular facility to be inspected shall be chosen by the Technical Secretariat in such a way to preclude the prediction of precisely when the facility is to be inspected.

Notification

7. A State Party shall be notified by the (Director-General of the) Technical Secretariat of the decision to inspect a facility referred to in paragraphs 2 and 3 ... hours prior to the arrival of the inspection team.

Host State Party

8. The host State Party shall have the right to designate personnel to accompany an international inspection team. The exercise of this right shall not affect the right of Inspectors to obtain access to the facility, as provided by the Convention, nor shall it delay or otherwise impede the carrying out of the inspection.

1/ One delegation suggested that the number of such inspections could be from one to five per year.

2/ A number of possible factors that could influence the number, intensity, duration, timing and mode of inspections have been identified and discussed. The result of this work is enclosed in Appendix II to serve as a basis for future work.

3/ It was noted that a "weighted approach" might be taken in determining the inspection régime for specific chemicals. The importance of establishing a threshold(s) in this context was also noted. It was mentioned that a threshold(s) should relate to "militarily significant quantities" of the relevant chemical(s).

Initial Visit

9. Each facility notified to the Technical Secretariat under this Annex shall be liable to receive an initial visit from international Inspectors, promptly after the State becomes a Party to the Convention.

10. The purpose of the initial visit shall be to verify information provided concerning the facility to be inspected and to obtain any additional information needed for planning future verification activities at the facility, including inspection visits and use of on-site instruments.

Agreement on Inspection Procedures

11. Each State Party shall execute an agreement, based on a model agreement, with the Organization, within [6] months after the Convention enters into force for the State, governing the conduct of the inspections of the facilities declared by the State Party. The agreement shall provide for the detailed subsidiary arrangements which shall govern inspections at each facility. 1/

12. Such agreements shall be based on a Model Agreement and shall specify for each facility the number, intensity, duration of inspections, detailed inspection procedures and the installation, operation and maintenance of on-site instruments by the Technical Secretariat. The Model Agreement shall include provisions to take into account future technological developments.

States Parties shall ensure that the systematic international on-site verification can be accomplished by the Technical Secretariat at all facilities within the agreed time frames after the convention enters into force. 2/

Verification Inspections

13. The areas of a facility to be inspected under subsidiary arrangements may, inter alia, include: 3/

(i) areas where feed chemicals (reactants) are delivered and/or stored;

1/ Several delegations considered that the model agreement should be elaborated as part of the negotiations on the Convention. A draft for such a model agreement is contained in Appendix II.

2/ Procedures to ensure the implementation of the verification scheme within designated time frames are to be developed.

3/ Opinions were expressed on the need to consider the question of the existence in a facility of excessive capacity for the production of chemicals on Schedule 2.

(ii) areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessel;

(iii) feed lines as appropriate from subparagraph (i) and/or subparagraph (ii) to the reaction vessel, together with any associated valves, flow meters, etc.;

(iv) the external aspect of the reaction vessel and its ancillary equipment;

(v) lines from the reaction vessel leading to long- or short-term storage or for further processing of the designated chemical;

(vi) control equipment associated with any of the items under subparagraphs (i) to (v);

(vii) equipment and areas for waste and effluent handling;

(viii) equipment and areas for disposition of off-specification chemicals.

14. (a) The (Director-General of the) Technical Secretariat shall notify the State Party of its decision to inspect or visit the facility [48] [12] hours prior to the planned arrival of the inspection team at the facility for systematic inspections or visits. In the event of inspections or visits to resolve urgent problems, this period may be shortened. The (Director-General of the) Technical Secretariat shall specify the purpose(s) of the inspection or visit.

(b) A State Party shall make any necessary preparations for the arrival of the Inspectors and shall ensure their expeditious transportation from their point of entry on the territory of the State Party to the facility. The agreement on subsidiary arrangements will specify administrative arrangements for Inspectors.

(c) International Inspectors shall, in accordance with agreements on subsidiary arrangements:

- have unimpeded access to all areas that have been agreed for inspection. While conducting their activity, Inspectors shall comply with the safety regulations at the facility. The items to be inspected will be chosen by the Inspectors;

- bring with them and use such agreed instruments as may be necessary for the completion of their tasks;

- receive samples taken at their request at the facility. Such samples will be taken by representatives of the State Party in the presence of the Inspectors;

- perform on-site analysis of samples;

- transfer, if necessary, samples for analysis off-site at a laboratory designated by the Organization 1/ in accordance with agreed procedures; 2/

- afford the opportunity to the host State Party to be present when samples are analysed; 2/

- ensure, in accordance with procedures (to be developed), that samples transported, stored and processed are not tampered with; 2/

- communicate freely with the Technical Secretariat.

(d) The State Party receiving the inspection shall, in accordance with agreed procedures:

- have the right to accompany the International Inspectors at all times during the inspection and observe all their verification activities at the facility;

- have the right to retain duplicates of all samples taken and be present when samples are analysed;

- have the right to inspect any instrument used or installed by the International Inspectors and to have it tested in the presence of its personnel;

- provide assistance to the International Inspectors, upon their request, for the installation of the monitoring system and the analysis of samples on-site;

- receive copies of the reports on inspections of its facility(ies);

- receive copies, at its request, of the information and data gathered about its facility(ies) by the Technical Secretariat.

15. The Technical Secretariat may retain at each site a sealed container for photographs, plans and other information that it may wish to refer to in the course of subsequent inspection.

Submission of Inspectors' Report

16. After each inspection or visit to the facility, International Inspectors shall submit a report with their findings to the (Director-General of the) Technical Secretariat which will transmit a copy of this report to the State Party having received the inspection or visit.

17. The International Inspectors may request clarification of any ambiguities arising from the inspection. In the event that any ambiguities arise which cannot be resolved in the course of the inspection, the Inspectors shall inform the (Director-General of the) Technical Secretariat immediately.

1/ The designation of the organ of the Organization that will be entrusted with this task will be considered further and specified in the text.

2/ The view was expressed that all questions related to analysis off-site required further discussion.

ANNEX 3 TO ARTICLE VI

Régime for Chemicals on Schedule 3

DECLARATIONS

1. The Initial and Annual Declarations to be provided by a State Party under paragraph 4 of Article VI shall include the following information for each of the chemicals listed in Schedule 3:

(i) The chemicals name, common or trade name used by the facility, structural formula and Chemical Abstracts Service Registry Number.

(ii) The total amount produced, consumed, imported and exported in the previous calendar year. 1/

(iii) The final product or end use of the chemical in accordance with the following categories (to be developed).

(iv) For each facility which during the previous calendar year produced, processed, consumed or transferred more than [30] tonnes of a chemical listed in Schedule 3 or which produced 2/ at any time since ... a chemical in Schedule 3 for chemical weapons purposes: 3/ 4/

(a) The name of the facility and of the owner, company, or enterprise operating the facility.

(b) The location of the facility.

1/ Whether the total amount is to be expressed as an exact figure or within a range is to be discussed.

2/ A view was expressed that the question of a quantitative threshold would need to be discussed in this context.

3/ The placement in the Convention of the obligation to declare facilities which produced a chemical in Schedule 3 for chemical weapons purposes needs further consideration. A view was expressed that this obligation should be included in the Annex to Article V.

4/ It was proposed that a threshold for the dual purpose agents (Phosgene, Cyanogen chloride, Hydrogen cyanide, Chloropicrin) could be established at [50 tonnes/year] [500 tonnes/year] and for precursors at [5 tonnes/year] [50 tonnes/year]. The proposal was presented in an informal discussion paper dated 30 March 1987, prepared on the request of the Chairman of the Committee, by Dr. Peroni (Brazil), Lt. Col. Bretfeld (German Democratic Republic) and Dr. Ooms (Netherlands).

(c) The capacity (to be defined) 1/ of the facility.

(d) The approximate amount of production and consumption of the chemical in the previous year (ranges to be specified).

2. A State Party shall notify the Technical Secretariat of the name and location of any facility which intends, in the year following submission of the Annual Declaration, to produce, process or consume any of the chemicals listed in Schedule 3 (on an industrial scale - to be defined).

VERIFICATION

The verification régime for chemicals listed in Schedule 3 will comprise both the provision of data by a State Party to the Technical Secretariat and the monitoring of that data by the Technical Secretariat. 2/

1/ Some consultations with technical experts have taken place on this issue. A report on these consultations is enclosed in Appendix II to facilitate further work by delegations.

2/ Some delegations consider that provision should be made for resort to an on-site "spot-check" inspection, if required, to verify information supplied by a State Party. Other delegations believe that the provisions of Articles VII, VIII and IX of the Convention are sufficient in this respect.

OTHER DOCUMENTS

Preparatory Commission 1/

1. For the purpose of carrying out the necessary preparations for the effective operation of the provisions of the Convention and for preparing for the first session of the Conference of the States Parties, the Depositary of the Convention shall convene a Preparatory Commission not later than [30] days after the Convention has been signed by (to be determined) States.

2. The Preparatory Commission shall be composed of all States which sign the Convention before its entry into force. Each signatory State shall have one representative in the Preparatory Commission, who may be accompanied by alternates and advisers.

3. The Commission shall be convened at [...] and remain in existence until the first session of the Conference of the States Parties has convened.

4. The expenses of the Commission shall be met by the States signatories to the Convention, participating in the Commission, [in accordance with the United Nations scale of assessment, adjusted to take into account differences between the United Nations membership and the participation of States signatories in the Commisson].

5. All decisions of the Preparatory Commission should be taken by consensus. If notwithstanding the efforts of representatives to achieve consensus, an issue comes up for voting, the Chairman of the Preparatory Commission shall defer the vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Commission prior to the end of the period. If consensus is not possible at the end of 24 hours, the Commission shall take decisions on questions of procedure by a simple majority of the members present and voting. Decisions on questions of substance shall be taken by two-thirds majority of the members present and voting. When the issue arises as to whether the question is one of substance or not, that question shall be treated as one of substance unless otherwise decided by the Preparatory Commission by the majority required for decisions on questions of substance. 2/

6. The Commission shall:

(a) elect its own officers, adopt its own rules of procedures, determine its place of meeting, meet as often as necessary and establish such committees as it deems useful;

(b) appoint an executive secretary and staff to exercise such functions as the Commission may determine with a view to establishing a provisional

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1/ Provisions on the Commission could be contained in a resolution of the United Nations General Assembly commending the Convention or in an appropriate document associated with the Convention.

2/ It has also been proposed that decisions should be taken by consensus only.

Technical Secretariat with units in charge of preparatory work concerning the main activities to be carried out by the Technical Secretariat to be established by the Convention;

(c) make arrangements for the first session of the Conference of the States Parties, including the preparation of a draft agenda and draft rules of procedure;

(d) undertake, inter alia, the following tasks on subjects requiring immediate attention after the entry into force of the Convention:

(i) the detailed staffing pattern of the Technical Secretariat, including decision-making flow charts;

(ii) assessments of personnel requirements;

(iii) staff rules for recruitment and service conditions;

(iv) recruitment and training of technical personnel;

(v) standardization and purchase of equipment;

(vi) organization of office and administrative services;

(vii) recruitment and training of support staff;

(viii) establishment of the scale of financial contribution for the Organization; 1/

(ix) establishment of administrative and financial regulations;

(x) preparation of host country agreement;

(xi) preparation of guidelines for initial visits and facility attachments;

(xii) preparation of programme of work and budget of the first year of activities of the Organization;

(xiii) preparation of such studies, reports and recommendations as it deems necessary.

7. The Commission shall prepare a final report on all matters within its mandate for the first session of the Conference of States Parties and the first meeting of the Executive Council.

8. At the first session of the Conference of States Parties, the property and records of the Preparatory Commission shall be transferred to the Organization.

1/ The view was expressed that the entire problem of the costs of the Organization needs to be considered.

ADDENDUM TO APPENDIX I

PROTOCOL ON INSPECTION PROCEDURES 1/

Contents

1/ The texts contained in this document require further consideration and elaboration including the level of detail required in this Protocol as well as the overlap between detail in the Annexes and in this Protocol. Some delegations held that many of the details should not be included in the Protocol and that they should rather be the subject of an Inspectors' manual to be issued by the Technical Secretariat. Also the status of this Protocol and the question of amendment procedures to be applied to the provisions contained in the Protocol require further discussion.

Contents (continued)

PART I: GENERAL

I. Definitions

"Inspector" means an individual designated by the Director-General of the Technical Secretariat according to the procedures as set forth in part I, Section II of this Protocol to carry out an inspection in accordance with the Convention, its annexes, and facility agreements between States Parties and the Organization of the Convention.

"Inspection assistant" means an individual designated by the Director-General of the Technical Secretariat according to the procedures as set forth in part I, Section II of this Protocol to assist inspectors in an inspection (e.g. medical, security, administration, interpreters).

"Inspection Team" means the group of inspectors and inspection assistants assigned by the Director-General of the Technical Secretariat to conduct a particular inspection.

"Inspected State Party" means the State Party to the Convention on whose territory an inspection pursuant to the Convention, its annexes and facility agreements between Parties and the Organization of the Convention takes place, or the State Party to the Convention whose facility on the territory of a host State is subject to such an inspection.

"Inspection Site" means any area or facility at which the inspection is carried out and which is specifically defined in the respective facility agreement or inspection mandate or request.

"Period of Inspection" means the period of time from arrival of the inspection team at the inspection site until its departure from the inspection site, exclusive of time spent on briefings before and after the verification activities.

"Point of Entry" means the location(s) designated for the in-country arrival of inspection teams for inspections pursuant to the Convention and for their departure after completion of their mission.

"In-Country Period" means the period from the arrival of the inspection team at a point of entry until its departure from the State at a point of entry.

"Host State" means that State on whose territory lie States Parties' facilities subject to inspection under the Convention.

"In-Country Escort" means individuals specified by the inspected State Party and, if appropriate, by the Host State, if they so wish to accompany and assist the inspection team during the in-country period.

"Routine Inspections" means the systematic, on-site inspection [, subsequent to initial inspections,] of facilities declared pursuant to Articles IV, V, VI and the Annexes to those Articles.

"Initial inspection" means the first on-site inspection of facilities to verify data declared pursuant to Articles IV, V, VI and the Annexes to those Articles.

"Challenge Inspection" means the inspection of a State Party requested by another State Party pursuant to Article IX, part II.

"Requesting State Party" means a State Party which has requested a challenge inspection pursuant to Article IX.

"Observer" means a representative of a requesting State Party designated by that State Party to observe a challenge inspection.

"Approved Equipment" means the devices and/or instruments necessary for the performance of the inspection team's duties that have been certified by the Technical Secretariat in accordance with agreed procedures. Such equipment may also refer to the administrative supplies or recording materials that would be used by the inspection team.

"Facility Agreement" means an agreement between a State Party and the Organization relating to a specific facility subject to routine inspection.

"Inspection Mandate" means the instructions issued by the Director-General of the Technical Secretariat to the inspection team for the conduct of a particular inspection.

II. Designation of inspectors and inspection assistants

1. Not later than ... days after entry into force of the Convention the Technical Secretariat shall communicate, in writing, to all States Parties the names, nationality and ranks of the Inspectors and inspection assistants proposed for designation. 1/ Furthermore, it shall furnish a description of their qualifications and professional experience.

2. Each State Party shall immediately acknowledge receipt of the list of Inspectors and inspection assistants, proposed for designation communicated to it. Any Inspector and inspection assistant included in this list shall be regarded as designated unless a State Party, within [30] days 2/ after acknowledgement of receipt of the list declares its non-acceptance.

In the case of non-acceptance, the proposed Inspector or inspection assistant shall not undertake or participate in verification activities within the State Party which has declared his non-acceptance. The Director-General shall, as necessary, submit further proposals in addition to the original list.

1/ It has been suggested that, in order to facilitate early implementation of the verification activities, States might, upon signature or thereafter before the entry into force, make declarations concerning the number and types of facilities which shall be subject to verification. The Preparatory Commission, on the basis of these declarations, might initiate the designation and clearance process.

2/ The time period should not be longer than 30 days. Otherwise the obligation to make declarations within 30 days after entry into force and immediately thereafter provide access for inspection cannot be met.

3. Verification activities under the Convention shall only be performed by designated Inspectors and inspection assistants.

4. Subject to the provisions of paragraph 5 below a State Party has the right at any time, to object to an Inspector or inspection assistant who may have been already designated in accordance with the procedures in paragraph 3 above.

It shall notify the Technical Secretariat of its objections [and include the reason for the objection.] Such objections shall come into effect 30 days after receipt by the Technical Secretariat. The Technical Secretariat shall immediately inform the State concerned of the withdrawal of the designation of the Inspector or inspection assistant.

5. A State Party that has been notified of an inspection shall not seek to have removed from the inspection team for that inspection any of the designated inspectors or inspection assistants named in the inspection team list. 1/

6. The number of Inspectors and inspection assistants accepted by and designated to a State Party must be sufficient to allow for availability and rotation of appropriate numbers of Inspectors and inspection assistants.

7. If, in the opinion of the Director-General the non-acceptance of proposed Inspectors or inspection assistants impedes the designation of a sufficient number of Inspectors or inspection assistants or otherwise hampers the effective fulfilment of the task of the International Inspectorate, the Director-General shall refer the issue to the Executive Council.

8. Whenever amendments to the above-mentioned lists of Inspectors and inspection assistants are necessary or requested, replacement Inspectors and inspection assistants shall be designated in the same manner as set forth with respect of the initial list.

9. The members of the inspection team carrying out an inspection of a facility of a State Party located in the territory of another State Party shall be designated in accordance with the procedures set out in this Protocol both to the inspected State Party and the host State.

1/ A view was expressed that new information on the bona fides of designated inspectors could be a reason for objecting to their being included in the inspection team.

III. Privileges and immunities 1/

1. Each State party shall, within [30] days 2/ after acknowledgement of receipt of the list of Inspectors and inspection assistants or of changes thereto and for the purpose of carrying out inspection activities, provide for multiple entry/exit and/or transit visas and other such documens which each Inspector or inspection assistant may need to enter and to remain on the territory of that State Party. These documents shall be valid for at least 24 months from the date of their provision to the Technical Secretariat.

2. To exercise their functions effectively, Inspectors and inspection assistants shall be accorded privileges and immunities as set forth in paragraph (i) through (ix). Privileges and immunities shall be granted to members of the inspection team for the sake of the Convention and not for the personal benefit of the individuals themselves. Privileges and immunities shall be accorded for the period of transit through non-inspected States Parties, for the entire in-country period, and thereafter with respect to acts previously performed in the exercise of official functions as Inspector or inspection assistant. 3/

(i) The members of the inspection team shall be accorded the inviolability enjoyed by diplomatic agents pursuant to Article 29 of the Vienna Convention on Diplomatic Relations of 18 April 1961.

(ii) The living quarters and office premises occupied by the inspection team carrying out inspection activities pursuant to the Convention shall be accorded the inviolability and protection accorded the premises of diplomatic agents pursuant to Article 30 of the Vienna Convention on Diplomatic Relations.

(iii) The records of the inspection team shall enjoy the inviolability accorded to all papers and correspondence of diplomatic agents pursuant to Article 30 of the Vienna Convention on Diplomatic Relations. The inspection team shall have the right to use codes for their communications with the Technical Secretariat.

1/ Some delegations expressed the view that this section required further consideration. A view was expressed that Article VI ("Experts on mission for the United Nations") of the Convention on the Privileges and Immunities of the United Nations should be taken into account in this later consideration.

2/ The time period should not be longer than 30 days. Otherwise the obligation to make declarations within 30 days after entry into force and immediately thereafter provide access for inspection cannot be met.

3/ The rights and privileges of the Inspectors and inspection assistants during transportation over and through non-States Parties needs further consideration.

(iv) Samples and approved equipment carried by members of the inspection team shall be inviolable subject to provisions contained in the Convention and exempt from all customs duties. Hazardous samples shall be transported in accordance with relevant transport regulations.

(v) The members of the inspection team shall be accorded the immunities accorded diplomatic agents pursuant to paragraphs 1, 2 and 3 of Article 31 of the Vienna Convention on Diplomatic Relations.

(vi) The members of the inspection team carrying out their prescribed activities pursuant to the Convention shall be accorded the exemption from dues and taxes accorded to diplomatic agents pursuant to Article 34 of the Vienna Convention on Diplomatic Relations.

(vii) The members of the inspection team shall be permitted to bring into the territory of the inspected State Party or host State, without payment of any customs duties or related charges, articles for personal use, with the exception of articles the import or export of which is prohibited by law or controlled by quarantine regulations.

(viii) The members of the inspection team shall be accorded the same currency and exchange facilities as are accorded to representatives of foreign Governments on temporary official missions.

(ix) The members of the inspection team shall not engage in any professional or commercial activity for personal profit on the territory of the inspected State Party or that of the host State.

3. Without prejudice to their privileges and immunities the members of the inspection team shall be obliged to respect the laws and regulations of the inspected State Party or host State and, to the extent that is consistent with the inspection mandate, shall be obliged not to interfere in the internal affairs of that State.

If the inspected party or host State Party considers that there has been an abuse of privileges and immunities specified in this Protocol, consultations shall be held between the Party and the Director-General of the Technical Secretariat to determine whether such an abuse has occurred and, if so determined, to prevent a repetition of such an abuse.

The immunity from jurisdiction of members of the inspection team may be waived by the Director-General of the Technical Secretariat in those cases when it is of the opinion that immunity would impede the course of justice and that it can be waived without prejudice to the implementation of the provisions of the Convention. Waiver must always be express.

[4. If at any time, a member of the inspection team is on the territory of the inspected State Party or host State and is suspected or accused of violating a law or regulation, consultations shall be held between the State concerned and the inspection team chief to determine whether such an abuse has occurred, and if so determined, to prevent a repetition of such an abuse. If requested by the inspected State Party or host State, the Director-General of the Technical Secretariat shall remove that individual from the country. If the inspection team chief is the individual suspected or accused, the

inspected State Party shall have the right to communicate with the Director-General of the Technical Secretariat and request their removal and replacement. The deputy team chief shall assume the duty of team chief until the Technical Secretariat has acted on the inspected State Party's request.]

[5. If the inspected State Party so decides, Inspectors and inspection assistants monitoring destruction of chemical weapons during the active phase of destruction pursuant to article IV and its annex shall only be allowed to travel 1/ up to (...) kilometres from the inspection site with the permission of the in-country escort, and as considered necessary by the inspected State Party shall be accompanied by the in-country escort. Such travel shall be taken solely as leisure activity. 2/]

IV. Standing arrangements

A. Points of entry

1. Each State Party shall designate the points of entry and shall supply the required information to the Technical Secretariat not later than 30 days after the Convention enters into force. 3/ These points of entry shall be such that the inspection team can reach any inspection site from at least one point of entry within [12] hours. Locations of points of entry shall be provided to all States Partis by the Technical Secretariat.

2. Each State Party may change the points of entry by giving notice of such change to the Technical Secretariat. Changes shall become effective ... days after the Technical Secretariat receives such notification to allow appropriate notification to all States Parties.

3. If the Technical Secretariat considers that there are insufficient points of entry for the timely conduct of inspections or that changes to the points of entry proposed by a State Party would hamper such timely conduct of inspections, it shall enter into consultations with the State Party concerned to resolve the problem.

4. In cases where facilities of an inspected State Party are located in the territory of another State Party or where the access from the point of entry to the facilities subject to inspection requires transit through the territory of another State, inspections shall be carried out in accordance with this Protocol.

1/ It is understood that "travel" does not imply the right of access to areas restricted for security reasons or to private property.

2/ Further study on the rights of members of an inspection team to communicate with the embassy of their respective nationality is necessary.

3/ In order to ensure that the process of designation of Inspectors and inspection assistants, as well as of points of entry (and departure) function smoothly as from the date of entry into force of the Convention, the idea of the signatories indicating advance acceptance on the basis of a preliminary list drawn up by the Preparatory Commission should be considered.

States Parties on whose territory facilities of other States Parties subject to inspection are located shall facilitate the inspection of those facilities and shall provide for the necessary support to enable the inspection team to carry out its tasks in a timely and effective manner.

5. In cases where facilities of an inspected State Party are located in the territory of a non-State Party the State Party subject to inspection shall ensure that inspections of those facilities can be carried out in accordance with the provisions of this Protocol. A State Party that has one or more facilities on the territory of a non-State Party shall ensure acceptance by the host State of inspectors and inspection assistants designated to that State Party.

B. Arrangements for use of unscheduled aircraft

1. For inspections pursuant to Article IX and for other inspections where timely travel is not feasible using scheduled commercial transport, an inspection team may need to utilize aircraft owned or chartered by the Technical Secretariat. Within 30 days after entry into force of the Convention, each State Party shall inform the Technical Secretariat of the standing diplomatic clearance number for non-scheduled aircraft transporting inspection teams and equipment necessary for inspection into and out of the territory in which an inspection site is located. Aircraft routings to and from the designated point of entry shall be along established international airways that are agreed upon between the States Parties and the Technical Secretariat as the basis for such diplomatic clearance.

2. When a non-scheduled aircraft is used, the Technical Secretariat shall provide the inspected State Party with a flight plan, through the National Authority, for the aircraft's flight from the last airfield prior to entering the airspace of the State in which the inspection site is located to the point of entry, no less than [6] hours before the scheduled departure time from that airfield. Such a plan shall be filed in accordance with the procedures of the International Civil Aviation Organization applicable to civil aircraft. For its owned or chartered flights, the Technical Secretariat shall include in the remarks section of each flight plan the standing diplomatic clearance number and the notation: "Inspection aircraft. Priority clearance processing required."

3. No less than [3] hours prior to the scheduled departure of the inspection team from the last airfield prior to entering the airspace of the country in which the inspection is to take place, the inspected State Party [or host State Party] shall ensure that the flight plan filed in accordance with paragraph B of this section is approved so that the inspection team may arrive at the point of entry by the estimated arrival time.

4. The inspected State Party shall provide parking, security protection, servicing and fuel as required for the aircraft of the inspection team at the point of entry when such aircraft is owned or under charter to the Technical Secretariat. Such aircraft shall not be liable for landing fees, departure tax, and similar charges. The Technical Secretariat shall bear the cost of such fuel, [security] and servicing. 1/

1/ The Technical Secretariat will need to negotiate arrangements for costs of such services.

C. Administrative arrangements

The inspected State Party shall provide or arrange for the amenities necessary for the inspection team such as communication means, interpretation services to the extent necessary for the performance of interviewing and other tasks, transportation, working space, lodging, meals and medical care of the inspection team. In this regard, the inspected State Party shall be reimbursed by the Organization for such costs incurred by the inspection team (details to be developed).

D. Approved equipment

1. Subject to paragraph 3 of this section there shall be no restriction by the inspected State party on the inspection team bringing on to the inspection site such approved equipment which the Technical Secretariat [and the States parties] [has] [have] determined to be necessary to fulfil the inspection requirements. 1/

[This includes, inter alia, equipment for discovering and preserving evidence related to the compliance with the Convention, temporary and permanent monitoring equipment and seals for emplacement, equipment for discovering and preserving information, equipment for recording and documenting the inspection, as well as for communication 2/ with the Technical Secretariat and for determining that the inspection team has been brought to the site for which the inspection has been requested.] The Technical Secretariat shall to the extent possible prepare and, as appropriate, update a list of approved equipment, which may be needed for the purposes described above, and regulations governing such equipment which shall be in accordance with this Protocol. In establishing the list of approved equipment and these regulations, the Technical Secretariat should ensure that safety considerations for all the types of facilities at which such equipment is likely to be used, are taken fully into account. 3/ 4/

2. The equipment shall be in the custody of the Technical Secretariat and be designated, calibrated and approved by the Technical Secretariat. The Technical Secretariat shall, to the extent possible, select that equipment which is specifically designed for the specific kind of inspection required.

1/ A view was expressed that further consideration should be given to the conclusion of bilateral agreements between the Technical Secretariat and the States Parties on the instruments and devices to be used in the inspections in order to guarantee that they are reliable and applicable.

2/ The issue of communications requires further consideration.

3/ Further consideration needs to be given to when and how such equipment will be agreed and to what extent it will need to be specified in the Convention.

4/ The relationship between equipment for routine inspections and challenge inspections and provisions for their respective uses will need to be considered.

Designated and approved equipment shall be specifically protected against unauthorized alteration. [The Technical Secretariat shall certify that the equipment meets agreed standards.]

3. The inspected State Party shall have the right, without prejudice to the prescribed time-frames to inspect the equipment in the presence of inspection team members at the point of entry, i.e., to check the identity of the equipment brought in or removed from the territory of the inspected State Party or host State. To facilitate such identification, the Technical Secretariat shall attach documents and devices to authenticate its designation and approval of the equipment. The inspection of the equipment shall also ascertain to the satisfaction of the inspected State Party that the equipment meets the description of the approved equipment for the particular type of inspection. The inspected State Party may exclude equipment not meeting that description or equipment without the above-mentioned authentication documents and devices. [Excluded equipment shall be kept at the point of entry until the inspection team leaves the respective State. Storage of the inspection team's equipment and supplies at the point of entry shall be in tamper-indicating containers provided by the inspection team within a secure facility provided by the inspected State Party. Access to each secure facility shall be controlled by a "dual key" system requiring the presence of both the inspected party and representative of the inspection team to gain access to the equipment and supplies. The Technical Secretariat may allow a State Party to maintain equipment storage as described here in lieu of bringing it in for each inspection in accordance with the agreement between the State Party concerned and the Technical Secretariat.]

4. In cases where the inspection team finds it necessary to use equipment available on site not belonging to the Technical Secretariat and requests the inspected State Party to enable the team to use such equipment, the inspected State Party shall comply with the request to the extent it can. 1/

V. PRE-INSPECTION ACTIVITIES

A. Notification

1. The Director-General of the Technical Secretariat shall notify the State Party prior to the planned arrival of the inspection team at the point of entry and within the prescribed timeframes where specified of its intention to carry out an inspection.

2. Notifications made by the Director-General of the Technical Secretariat shall include the following information:

- the type of inspection;

- the point of entry; 2/

1/ A view was expressed that the possibility of agreed procedures should be considered in this regard.

2/ A view was expressed that for routine inspections it could be agreed in the facility agreement that notification of the point of entry would not be needed.

- the date and estimated time of arrival at the point of entry;
- the means of arrival at the point of entry;
- [the site to be inspected];
- the names of Inspectors and inspection assistants;
- if appropriate, aircraft clearance of special flights;
- the names of the observer[s] of the requesting State Party in the case of a challenge inspection.

[The inspection site shall be specified by the chief of the inspection team at the point of entry not later than 24 hours after the arrival of the inspection team.]

3. The inspected State Party shall within [one] hour acknowledge the receipt of a notification by the Technical Secretariat of an intention to conduct an inspection.

4. In the case of an inspection of a facility of a State Party located in the territory of another State Party both State Parties shall be simultaneously notified in accordance with paragraphs 1, 2, 3 of this section.

B. Entry into the territory of the inspected State Party or host State and transfer to the inspection site

1. The State Party [or host State Party] which has been notified of the arrival of an inspection team, shall ensure its immediate entry into the territory and shall through an in-country escort [if such an escort is requested] do everything in its power to ensure the safe conduct of the inspection team and its equipment and supplies, from its point of entry to the inspection site(s) and to its point of exit.

2. In accordance with paragraphs 4 and 5 of Section IV A. above, the inspected State Party [or host State Party] shall ensure that the inspection team is able to reach the inspection site within [12] 1/ hours from the arrival at the point of entry or, if appropriate, from the time the inspection site is specified at the point of entry. 2/

1/ Further study is required on whether a longer or shorter time period is feasible.

2/ The view was expressed that because the specific point of entry utilized as well as the time of arrival would be selected by the Technical Secretariat and to avoid prematurely revealing the site during some types of inspections the closest point of entry may not be chosen, the inspected State Party could not be held responsible for ensuring that the inspection team reaches the site within a specified time frame, although it should undertake to avoid the use of delaying tactics.

C. Pre-inspection briefing

Upon arrival at the inspection site and prior to the commencement of the inspection, the inspection team shall be briefed, with the aid of maps and other documentation as appropriate, by facility representatives on the facility, the activities carried out there, safety measures and administrative and logistic arrangements necessary for the inspection. The time spent for the briefing shall be limited to the minimum necessary and in any event not exceeding three hours.

VI. CONDUCT OF INSPECTIONS

A. General rules

1. The members of the inspection team shall discharge their functions in accordance with the articles and annexes of the Convention, this Protocol as well as rules established by the Director-General of the Technical Secretariat and facility agreements between States Parties and the Organization. 1/ 2/

2. The inspection team dispatched shall strictly observe the inspection mandate issued by the Director-General of the Technical Secretariat. 3/ It shall refrain from activities going beyond this mandate. 4/ 5/

3. The activities of the inspection team shall be so arranged as to ensure on the one hand the timely and effective discharge of the inspector's functions and, on the other, the least possible inconvenience to the State concerned and disturbance to the facility or other location inspected. The inspection team shall avoid unnecessarily hampering or delaying the operation of a facility and avoid affecting its safety. In particular, the inspection team shall not operate any facility.

1/ A detailed manual of technical procedures should be prepared for the guidance of teams conducting challenge inspections and for the inspected State Party to know what the rights, obligations and constraints of the inspectors, escorts and inspected State Party are. A view was expressed that the manual should, inter alia, give guidance to the inspection team on the specific types of information a team should seek to establish the facts in particular situations.

2/ A view was expressed that an Inspector or inspection assistant shall be considered to have assumed his inspection duties on departure from his primary work location, on Technical Secretariat arranged transportation, and shall be considered to have ceased performing those duties when he has returned to his primary work location and on termination of Technical Secretariat provided transportation.

3/ The use of the terms "Technical Secretariat" and "Director-General of the Technical Secretariat" needs to be reviewed throughout the Convention.

4/ A view was expressed that for challenge inspections the inspection mandate would have to be flexible enough for the inspection team to tailor the inspection to the conditions they meet on the site.

5/ The question of what actions shall be taken in case an inspector or an inspection assistant goes beyond the mandate should be further considered.

If inspectors consider that, to fulfil their mandate, particular operations should be carried out in a facility, they shall request the designated representative of the management of the facility to have them performed. The representative shall carry out the request to the extent possible.

4. In the performance of their duties on the territory of an inspected State Party, the members of the inspection team shall, if the inspected State Party so requests, be accompanied by representatives of his State, but the inspection team must not thereby be delayed or otherwise hindered in the excercise of its functions. 1/

5. [At least two Inspectors on each team must speak the language of the Convention which the inspected Party has agreed to work in. 2/ 3/ Each inspection team shall operate under the direction of a team leader and deputy team leader designated by the Director-General of the Technical Secretariat.] Upon arrival at the inspection site, the inspection team may divide itself into subgroups consisting of no fewer than two Inspectors each.

B. Safety

In carrying out their activities, Inspectors and inspection assistants shall observe safety regulations established at the inspection site, 4/ including those for the protection of controlled environments within a facility and for personal safety. Individual protective clothing and approved equipment, duly certified, shall normally be provided by the Technical Secretariat. 5/ 6/

1/ The right of host State representatives need to be further considered.

2/ Consideration should be given to include provision in the Convention for the selection by States Parties of what language of the Convention they will operate in for the conduct of inspections and submission of reports to the Technical Secretariat.

3/ The Technical Secretariat should also make arrangements for interpreters for national languages of States Parties, to the extent possible, to facilitate inspections.

4/ Consideration will need to be given with regard to those areas which for safety reasons preclude or limit the entrance of personnel (e.g. unexploded munitions, hazardous areas of destruction facilities).

5/ Agreements between the Technical Secretariat and States Parties should specify that all protective clothing and equipment meet pre-agreed safety standards or a State Party may require the team to use the clothing and equipment of the Party.

6/ For safety reasons, the inspected State Party should have the right to provide appropriate alternative equipment and protective clothing of its own for the inspection team, provided this does not hinder the conduct of the inspection.

C. Communications

Inspectors shall have the right throughout the in-country period to communications with the Headquarters of the Technical Secretariat. For this purpose they [may use their own, duly certified, approved equipment and/or] may request that the inspected State Party or host State Party provide them with access to other telecommunications. 1/ The inspection team shall have the right to use its own 2/ two-way system of radio communications between personnel patrolling the perimeter and other members of the inspection team. [Communication systems should conform to power and frequency instructions established by the Technical Secretariat.]

D. Inspection team and inspected State Party rights

1. The inspection team shall, in accordance with the relevant articles and annexes of this Convention as well as with facility agreements, have the right to unimpeded access to the inspection site. The items to be inspected will be chosen by the inspectors.

2. Inspectors shall have the right to interview any facility personnel in the presence of representatives of the inspected State Party with the purpose of establishing relevant facts. Inspectors shall only request information and data which are necessary to the conduct of the inspection, and the inspected State Party shall furnish such information upon request. The inspected State Party shall have the right to object to questions posed to the facility personnel if those questions are deemed not relevant to the inspection. If the inspection team chief objects and states their relevance, the questions shall be provided in writing to the Inspected Party for reply. The inspection team may note any refusal to permit interviews or to allow questions to be answered and any explanations given, in that part of the Inspection Report that deals with the co-operation of the Inspected State Party.

3. Inspectors shall have the right to inspect documentation and records they deem relevant to the conduct of their mission.

4. Inspectors shall have the right to have photographs taken at their request by representatives of the inspected State Party. The capability to take instant development photographic prints shall be available.

[If requested by the inspection team, such photographs should show the size of an object by placing a measuring scale, provided by the inspection team, alongside that object during the photographing.] The inspection team should determine whether photographs conform to those requested, and if not, repeat photographs should be taken. The inspection team and the inspected State Party should each retain one copy of every photograph.

1/ The issue of communications requires further consideration.

2/ For safety reasons, the inspected State Party should have the right to provide appropriate alternative equipment and protective clothing of its own for the inspection team, provided this does not hinder the conduct of the inspection.

5. The inspected State Party shall have the right to accompany the inspection team at all times during the inspection and observe all their verification activities.

6. The inspected State Party shall receive copies, at its request, of the information and data gathered about its facility(ies) by the Technical Secretariat.

7. Inspectors shall have the right to request clarifications in connection with ambiguities that arise during an inspection. Such requests shall be made promptly through the representative of the inspected State Party. The representative of the inspected State Party shall provide the inspection team, during the inspection, with such clarifications as may be necessary to remove the ambiguity. In the event questions relating to an object or a building located within the inspection site are not resolved, the object or building shall be photographed for the purpose of clarifying its nature and function. If the ambiguity cannot be removed during the inspection, the Inspectors shall notify the Technical Secretariat immediately. The Inspectors shall include any such unresolved question, relevant clarifications and a copy of any photographs taken in the inspection report.

E. Collection, handling and analysis of samples

1. Except as provided for in parts III and IV of this Protocol representatives of the inspected State Party or of the inspected facility shall take samples at the request of the inspection team in the presence of inspectors. If so agreed in advance with the representatives of the inspected State Party or of the inspected facility the inspection team may take samples themselves.

2. Where possible, the analysis of samples shall be performed on-site. The inspection team shall have the right to perform on-site analysis of sample using approved equipment brought by them. Alternatively they may request that appropriate analysis on-site be performed in their presence.

3. The inspected State Party has the right to retain portions of all samples taken or take duplicate samples and be present when samples are analysed on-site.

4. The inspection team shall, if they deem it necessary, transfer samples for analysis off-site at laboratories designated by the Organization. 1/ 2/ 3/

1/ The designation of the organ of the Organization that will be entrusted with this task will be considered further and specified in the text.

2/ In cases of off-site analysis, the question should be further discussed of documentation that should be provided by the Technical Secretariat to the inspected facilities (inspected State Party) concerning the acknowledgement of receipt of the samples at the designated laboratories, possible transfer as well as final destination (retention, return or destruction) of the unused samples or portions thereof.

3/ Transportation of toxic samples and existing international transportation regulations will need to be addressed.

5. The Director-General of the Technical Secretariat shall have the primary responsibility for the security, integrity and preservation of samples and for ensuring that the confidentiality of samples transferred for analysis off-site is protected. He shall

(i) establish a stringent régime governing the collection, handling, transport and analysis of samples;

(ii) certify the laboratories designated to perform different types of analysis;

(iii) oversee the standardization of equipment and procedures at these designated laboratories and mobile analytical equipment and procedures, and monitor quality control and overall standards in relation to the certification of these laboratories and mobile equipment/procedures; and

(iv) select from among the designated laboratories those which shall perform analytical or other functions in relation to specific investigations.

6. When off-site analysis is to be performed samples shall be analysed in at least two designated laboratories. The Technical Secretariat shall ensure the expeditious processing of the analysis. The samples shall be accounted for by the Technical Secretariat and any unused samples 1/ or portions thereof shall be returned to the Technical Secretariat.

7. The Technical Secretariat shall compile the results of the laboratory analysis of samples and include them in the final inspection report. The Technical Secretariat shall include in the report detailed information concerning the equipment and methodology employed by the designated laboratories.

F. Extension of inspecton duration

[Periods of inspection may be extended by agreement with the in-country escort, by no more than (xx hours).] 2/

1/ Consideraton should be given to the retention of unused samples taken during challenge inspection for which the findings were inconclusive.

2/ The view was expressed that, as no fixed period was foreseen for routine inspections, this paragraph might be superfluous. The view was also expressed that for some kinds of routine inspections there cannot be any time-limit without changing the substance of agreed provisions of articles IV and V and their annexes.

G. Debriefing

1. Upon completion of an inspection the inspection team shall meet with representatives of the inspected State Party and the personnel responsible for the inspection site to review the preliminary findings of the inspection team and to clarify any ambiguities. The inspection team shall provide to the representatives of the inspected State Party its preliminary findings in written form according to a standardized format together with a list of any samples and copies of written information and data gathered and other material to be taken off site. 1/ The document shall be signed by the head of the inspection team. In order to indicate that he has taken notice of the contents of the document the representative of the inspected State Party shall countersign the document. This meeting shall be completed within [4] [24] hours of the completion of the inspection.

VII. DEPARTURE

[In the case of inspections conducted pursuant to articles IV, V, VI and IX, upon completion of the post-inspection procedures, the inspection team shall return promptly to the point of entry at which it entered the inspected State and it shall then leave, within 24 hours, the territory of that State.] 2/

VIII. REPORTS

1. Within [10] days after the inspection, Inspectors shall prepare a final report 3/ on the activities conducted by them and on their findings. The report shall be factual in nature. It shall only contain facts relevant to compliance with the Convention, as provided for under the inspection mandate. The report shall also provide information as to the manner in which the State Party inspected co-operated with the inspection team. Differing observations 4/ held by Inspectors may be attached to the report. The report shall be kept confidential.

2. The final report shall immediately be submitted to the inspected State Party. Any written comments, which the inspected State Party may immediately make on its findings shall be annexed to it. The final report together with

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1/ A view was expressed that for routine inspection the question of off-site transfer of "copies of written information and data gathered and other material" needs further examination, in particular as regards the confidentiality aspect.

2/ The view was expressed that this paragraph could not apply to routine inspections.

3/ Further consideration needs to be given on when and how the receiving State/facility will be able to comment on the contents of the report.

4/ It is understood that it is not up to the inspection team to draw conclusions with regard to compliance of a State Party from the facts established during an inspection.

annexed comments made by the inspected State Party shall be submitted to the Director-General of the Technical Secretariat not later than [30] days after the inspection.

3. Should the report contain uncertainties, or should co-operation between the National Authority and the Inspectors not measure up to the standards required, the Director-General of the Technical Secretariat shall approach the State Party for clarification.

4. If the uncertainties cannot be removed or the facts established are of a nature to suggest that obligations undertaken under the Convention have not been met, the Director-General of the Technical Secretariat shall inform the Executive Council without delay.

PART II: ROUTINE INSPECTIONS PURSUANT TO ARTICLES IV, V AND VI

I. INITIAL INSPECTIONS AND FACILITY AGREEMENTS

1. Each facility declared and subject to on-site inspection pursuant to Articles IV, V and the Annexes 1 and 2 of Article VI shall be liable to receive an initial inspection from the international inspectors promptly after the facility is declared. The purpose of the initial inspection of the facility shall be to verify information provided and to obtain any additional information needed for planning future verification activities at the facilities, including on-site inspections and the use of continuous on-site instruments and to work on the facility agreements. 1/2/3/

2. Each State Party shall conclude a facility agreement with the Organization for each facility declared and subject to on-site inspection pursuant to Articles IV, V and the Annexes 1 and 2 of Article VI. These agreements shall be completed within ... months after the Convention enters into force for the State or after the facility has been declared for the first time. They shall be based on models for such agreements and provide for detailed arrangements which shall govern inspections at each facility. 4/5/

II. SIZE OF THE INSPECTION TEAM

[An inspection team conducting routine inspections pursuant to Articles IV, V and VI shall include no more than (xx) Inspectors and (xx) inspection assistants.] 6/

1/ The consistency of this provision with all verification provisions in the Convention needs further consideration.

2/ A view was expressed that initial inspections should be carried out in accordance with the guidelines for such inspections.

3/ A view was expressed that the rules governing the conduct of inspectors in performing the initial inspection need to be discussed and further elaborated.

4/ A view was expressed that the areas to which inspectors have access at the inspected facility shall be clearly defined in the facility agreement.

5/ It was suggested that with respect to Article VI verification a step-by-step approach should be introduced where appropriate.

6/ The view was expressed that routine inspection effort expressed in inspection man-days should be agreed between the inspected State Party and the Technical Secretariat and not be provided for in the Convention.

III. STANDING ARRANGEMENTS

A. Continuous Monitoring by Instruments

1. Where applicable, the Technical Secretariat shall have the right to install and use continuous monitoring instruments and systems and seals in conformity with the relevant provisions in the Convention and the facility agreements between State Parties and the Technical Secretariat.

2. Continuous monitoring systems consisting of, inter alia, sensors, ancillary equipment and transmission systems shall be specified in the facility agreements. They shall incorporate, inter alia, tamper-indicating and tamper-resistant devices as well as data protection and data authentication features.

3. The Technical Secretariat shall have the right to carry out necessary engineering surveys, construction, emplacement, maintenance, repair, replacement and removal of continuous monitoring instruments and systems and seals.

4. The inspected State Party shall provide the necessary preparation and support for the establishment of continuous monitoring instruments and systems and, to this end, shall, at the request of and at the expense of the Technical Secretariat provide:

(i) All necessary utilities for the construction and operation of the monitoring instruments and systems, such as electrical power and heating;

(ii) Basic construction materials;

(iii) Any site preparation necessary to accommodate the installation of continuously operating systems for monitoring;

(iv) Transportation for necessary installation tools, materials and equipment from the point of entry to the inspection site.

5. Every continuous monitoring system shall have such abilities and be installed, adjusted or directed in such a way as to correspond strictly and efficiently to [the sole purpose of detecting prohibited or unauthorized activities] [the purpose of detecting prohibited or confirming permitted activities]. The coverage of the system shall be limited accordingly. The monitoring system shall signal the technical Secretariat if any tampering with its components or interference with its functioning occurs. Redundancy shall be built into the monitoring system to ensure that failure of an individual component will not jeopardize the monitoring capability of the system.

6. Data to be transmitted from a facility to the Technical Secretariat shall be transmitted by means to be determined. Where necessary, the transmission system will incorporate frequent transmissions from the facility and a query and response system between the facility and the Technical Secretariat. International Inspectors shall periodically check the proper functioning of the monitoring system.

7. Seals placed by inspectors and monitoring devices shall only be removed in the presence of inspectors. If an extraordinary event requires the opening of a seal, or the removal of a monitoring device when an inspector is not present, the State Party shall immediately notify the Technical Secretariat. Inspectors shall as soon as possible check that no prohibited or unauthorized activities have occurred at the facilities and replace the seal or monitoring device.

8. The State Party shall immediately notify the Technical Secretariat if an event at a facility subject to systematic international monitoring occurs, or may occur, which may have an impact on the monitoring system. The State Party shall co-ordinate subsequent actions with the Technical Secretariat with a view to restoring the operation of the monitoring system and establishing interim measures, if necessary, as soon as possible.

B. Inspection activities relating to continuous monitoring by instruments

1. The inspection team shall verify during each inspection that the monitoring system functions correctly and that emplaced seals have not been tampered with. In addition, visits to service the monitoring system may be required to perform any necessary maintenance or replacement of equipment, or to adjust the coverage of the monitoring system as required.

2. In the event that the monitoring system indicated any anomaly, the Technical Secretariat shall immediately take action to determine whether this resulted from equipment malfunction or activities at the facility. If, after this examination the problem remained unresolved, the Technical Secretariat shall immediately ascertain the actual situation, including through immediate on-site inspection of the facility if necessary. The Technical Secretariat shall report any such problem immediately after its detection to the State Party who shall assist in its resolution. 1/

IV. PRE-INSPECTION ACTIVITIES

1. Routine inspections shall be notified [12] [24] [36] [48] 2/ hours in advance of the planned arrival of the inspection team [at the point of entry] [at the inspection site].

2. Initial inspections shall be notified no less than 72 hours in advance of the estimated time of arrival of the inspection team at the point of entry. Such notifications shall in addition to the information specified in part I, section VI A, paragraph 2 also include the specification of the inspection site.

1/ The issue of anomalies irregularities requires further discussion with regard to the consistent usage of terms throughout the Convention and, on a more general level, to the way the underlying concept is to be treated in the Convention.

2/ Consideration needs to be given to balance the time required for logistical purposes and the amount of advance warning given to a Party of a pending inspection.

V. DEPARTURE

[In the case of routine inspections pursuant to Articles IV, V and VI, if the inspectors intend to conduct another inspection within the same inspected State Party or host State the inspection team shall return to the point of entry which it used to enter the State and await notification by the Technical Secretariat to the inspected State Party of the next inspection.]

PART III: CHALLENGE INSPECTIONS CONDUCTED PURSUANT TO ARTICLE IX 1/ 2/

I. DESIGNATION AND SELECTION OF INSPECTORS AND INSPECTION ASSISTANTS

1. Inspections under Article IX shall only be performed by Inspectors and inspection assistants especially designated for this function. In order to designate Inspectors and inspection assistants for inspections under Article IX, the Director-General of the Technical Secretariat shall, by selecting Inspectors and inspection assistants from among the full-time Inspectors and inspection assistants for routine inspection activities, establish a list of proposed Inspectors and inspection assistants. It shall comprise a sufficiently large number of Inspectors and inspection assistants having the necessary qualification, experience, skill and training, to allow for [rotation] [random selection] and availability of Inspectors. The designation of Inspectors and inspection assistants shall follow the procedures provided for under Section II of this Protocol.

2. The Director-General shall select the members of an inspection team also taking into account the circumstances of a particular request. Each inspection team shall consist of not less than [5] inspectors and shall be [kept to a minimum necessary for the proper execution of its task] [not more than ... members 3/]. No national of the requesting State Party, or the inspected State Party shall be a member of the inspection team.

II. PRE-INSPECTION ACTIVITIES

A. Notification

1. The request for a challenge inspection to be submitted to the Director-General of the Technical Secretariat shall contain at least the following information: 4/

1/ The view was expressed that some main elements contained in this part are subject to further consideration and elaboration of the principles of on-site inspection on challenge, which also need further examination.

2/ The provisions in Part III may need to be amended in the light of experience gained in practice challenge inspections.

3/ It has been suggested that the size of the inspection team should be subject to agreed limits. Further study is needed before trying to specify what the limits should be. It would be useful to explore the relationship among the size of the area to be inspected, the duration of the inspection and the size of the inspection team.

4/ One delegation held the view that pending a decision on the Status of this Protocol and of the corresponding text for part 2 of Article IX the same formulation concerning the content of the request should be used as in paragraph 2 of page 197 of CD/952 in the same line the term "observer" in this text should be replaced by "representative" as mentioned in paragraph 3 on page 198 of CD/952.

- the State Party to be inspected and, if applicable, the host State

- the point of entry to be used

[- the precise location of the inspection site and the type of site to be inspected]

- the size of the inspection site

- the type of violation suspected including a specification of the relevant provisions of the Convention about which doubts about compliance have arisen and of the nature and circumstances of the suspected non-compliance

- the names of the observer[s] of the requesting State Party

The requesting State Party may submit any additional information it deems necessary.

2. The inspection site shall be delimited by geographic co-ordinates specified to the nearest second. The area subject to inspection shall be deemed to be the maximum area within the precision of the co-ordinates. [Where specification to the nearest second is not possible owing to the absence of sufficiently detailed maps, or where it would be helpful, geographic co-ordinates shall be supplemented by written descriptions.] If possible, the requesting State Party shall also provide a map with a general indication of the inspection site and a diagram specifying precisely the boundaries of the site to be inspected.

3. The Director-General of the Technical Secretariat shall within [one] hour[s] acknowledge to the requesting State Party receipt of its request. 1/

4. The Director-General of the Technical Secretariat shall notify the inspected State Party not less than [12] hours prior to the planned arrival of the inspection team at the point of entry. Simultaneously the members of the Executive Council shall be informed about the request.

[5. Unless already included in the request for a challenge inspection the requesting State Party shall within 24 hours after the arrival of the inspection team at the point of entry simultaneously inform the inspection team and the inspected State Party of the inspection site. At the same time the inspected State Party shall also be informed by the inspection team about the type of violation suspected as specified in the request in accordance with paragraph 2 of this section.] 2/

1/ It has been suggested that the transmission of the request needs further discussion in light of unresolved issues under Article IX.

2/ A view was expressed that the inspected State Party be fully informed on the inspection request and the violation it is suspected of at the latest after the arrival of the inspection team at the point of entry.

B. Entry into the territory of the inspected State Party or host State

The Director-General of the Technical Secretariat shall dispatch an inspection team as soon as possible after a request is received by the Technical Secretariat. The inspection team shall arrive at the point of entry specified in the request [not later than [24] hours after the receipt of a request] [in the minimum time possible]. 1/ 2/

C. Securing the site

1. To help establish that the site to which the inspection team has been transported corresponds to the site specified by the requesting State Party the inspection team shall have the right to use location-finding equipment and have such equipment and other approved equipment installed according to its directions. [The inspection team may also visit local landmarks identified from maps available to them in order to verify their location.]

2. In securing the inspection site, immediately upon arrival and up to the completion of the inspection, the inspection team shall be permitted to patrol the perimeter of the site, station personnel at the exits and inspect any means of transport [of the inspected State Party] [of any State Party temporarily or permanently based at the site or] leaving or entering the site, in order to ensure that there is no removal or destruction of relevant material. If the inspection team so decides, no such transport may leave the inspection site during the course of the inspection until permitted by the inspection team. The inspection team shall also be permitted to use approved equipment to monitor the perimeter of the site.

D. Pre-inspection briefing

1. A pre-inspection briefing shall be held in accordance with part I, section VI. C. In the course of the pre-inspection briefing, the inspected State Party may indicate to the inspection team the equipment, documentation or areas it considers sensitive and not related to the purpose of the inspection, the Inspectors shall [consider] [take] into account the proposals made to the extent they deem them appropriate for the conduct of their mission. Additionally, personnel responsible for the site will brief the team on the physical layout and other relevant characteristics of the site, the team shall be provided with a map or sketch drawn to scale showing all the structures and significant geographic features at the site. The team shall also be briefed on availability of facility personnel and records.

1/ It has been suggested that while the inspected State Party should co-operate with the Technical Secretariat to ensure rapid arrival of the team at a point of entry, the obligation to co-operate should be a more general one, and that this might best be dealt with in the text of the basic challenge inspection provision.

2/ The view was expressed that overall timeframes from the first announcement of a challenge inspection in a given State Party to the arrival of the inspection team at the inspection site are also important. The timeframes should be such as to enable the inspected State Party to co-operate fully with the inspection while not undermining the value of short-notice inspections.

2. After the pre-inspection briefing the inspection team shall prepare, on the basis of the information available to it, an inspection plan which specifies the activities to be carried out by the inspection team, including the specific areas of the site to be visited, and the sequences in which the planned activities will occur. The plan shall also specify whether the inspection team will be divided into subgroups. The plan shall be made available to the representatives of the inspected State Party and the inspection site. The representatives of the inspected State Party and of the inspection site may suggest modifications to the plan. The inspection team shall have full discretion whether or not to accept any suggestion and shall have the right to modify its inspection plan at any time. The inspection briefing as well as the establishment and discussion of the inspection plan shall not exceed the general time-limit provided for in part I of section VI. C.

III. CONDUCT OF INSPECTIONS

A. General rules

1. Subject to the provisions under section B. and this section the inspection team shall have the access at the site they deem necessary for the conduct of their mission.

2. In carrying out the inspection in accordance with the request, the inspection team shall use only those methods necessary to provide sufficient relevant facts to clarify doubts about compliance with the provisions of the Convention, and shall refrain from activities not relevant thereto. It shall collect and document such evidence as is related to the compliance with the Convention by the inspected State party but shall neither seek nor document information which is clearly not related thereto, unless the inspected State Party expressly requests it to do so. Any material collected and subsequently found not to be relevant shall not be retained.

3. The inspection team shall be guided by the principle of conducting the inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission. 1/ Wherever possible, it shall begin with the least intrusive procedures it deems acceptable and proceed to more intrusive procedures only as it deems necessary.

B. Managed access

1. The inspection team shall, to the extent it deems them appropriate, take into consideration and adopt suggested modifications of the inspection plan and proposals which may be made by the inspected State Party, at whatever stage of the inspection including the pre-inspection briefing, to ensure that sensitive equipment, information or areas, not related to chemical weapons, are protected.

1/ Possible standardization of procedures to facilitate the implementation, inter alia, of this principle may be considered in the context of a manual for Inspectors to be elaborated by the Technical Secretariat.

2. In conformity with the relevant provisions in the Annex on the protection of confidential information the inspected State Party shall have the right to take measures to protect sensitive installations and prevent disclosure of confidential data not related to chemical weapons. Such measures, which shall not interfere with the inspection, may include:

- removal of sensitive papers from office spaces and securing them in safes

- shrouding of sensitive displays that cannot be secured in safes

- shrouding of sensitive pieces of equipment, such as computer or electronic systems

- logging off of computer systems and turning off of data indicating devices

Subject to procedures in this Protocol (to be specified) inspectors shall have the right to inspect the entire inspection site, including shrouded or environmentally protected objects and the interiors of structures, containers, and vehicles.

3. It shall be the obligation of the inspected State Party to satisfy the inspection team that any object protected by measures in accordance with paragraph 19 above or any other area, structure, container or vehicle excluded from inspection has not been designed, constructed or used for the suspected activity stipulated in the inspection request.

[This may be accomplished by partial removal of a shroud or environmental protection cover, at the discretion of the inspected party, or by other methods. If the inspected party demonstrates to the satisfaction of the inspection team that the object has not been designed, constructed, or used for the stipulated suspect activity, then there shall be no further inspection of that object.

Furthermore, it shall be the responsibility of the inspected party to satisfy the inspectors that a hazardous area, structure, container, or vehicle has not been designed, constructed, or used for the suspected activity stipulated in the inspection request. If the inspected party demonstrates to the satisfaction of the inspection team by means of a visual inspection of the interior of an enclosed space from its entrance that the enclosed space does not contain any items designed, constructed, or used for the stipulated suspect activity, then such an enclosed space shall not be subject to further inspection 1/.]

1/ It was suggested that further study is needed regarding what should be done if the obligation to satisfy the inspectors has not been fulfilled.

C. Observer[s]

1. The requesting State Party shall have the right to observe the conduct of a challenge inspection. 1/ It shall liaise with the Technical Secretariat to co-ordinate the arrival of its observer[s] at the same point of entry as the inspection team within a reasonable period of the inspection team's arrival. 2/

2. The observer[s] of the requesting State Party shall have the right throughout the period of inspection to be in communication with the embassy of the requesting State located in the host State or, in the case of absence of an embassy, with the requesting State itself. He shall use the telephone communications provided by the requested State Party.

3. The observer[s] shall have [the right to arrive at the site] [access to the inspection site as granted by the inspected State Party to him/them] [the same access to the inspection site as that granted to the inspection team]. [Throughout the inspection the inspection team shall keep the observer(s) fully informed about the conduct of the inspection and the findings.] 3/

4. Throughout the in-country period, the inspected State Party shall provide or arrange for the amenities necessary for the observer[s] such as communication means, interpretation services, transportation, working space, lodging, meals and medical care. All the costs in connection with the stay of the observer[s] on the territory of the inspected State Party or the host State shall be borne by the requesting State Party.

D. Sampling

The inspection team shall itself have the right to take any air, soil, wipe or effluent samples from the inspection site [,] at the perimeter of the inspection site [,] immediately upon arrival at the inspection site and throughout the period of inspection. 4/

1/ A view was expressed that this sentence contained a basic obligation which should be included in the main body of the Convention.

2/ The procedures for the timely entry of the observer of the requesting State Party into the territory of the inspected State Party/host State require further consideration.

3/ The rights of the observer(s) need to be discussed and further elaborated. If agreement is reached that more than one observer shall be permitted, it might be necessary to specify the maximum number of observers.

4/ It has been suggested that whether inspection team members or escort personnel should take these samples would require further discussion. It was also suggested that procedures for sample analysis require further discussion.

E. Extension of inspection site 1/

If the inspection team considers it necessary, for the purpose of the inspection, to visit any other contiguous location outside the boundaries of the inspection site as originally specified by the requesting State Party, the inspection team leader shall formally submit a written request to the inspected State Party [through the in-country escort]. Within two hours of the submission of the request the inspected State Party shall formally respond in writing to the request [through the in-country escort]. The requesting State Party or the observer[s] of the requesting State Party shall promptly be informed by the inspection team of the request of the inspection team leader and the response to it by the inspected State Party. If the response is negative, the requesting State Party may [through its observer] modify its original request to include the additional contiguous location. Once such a modified request has been formally submitted to [the Director-General of the Technical Secretariat] [the in-country escort], the additional contiguous location shall be subject to inspection by the team within ... hours. A request to visit an additional contiguous location shall not extend the overall period of inspection unless agreed in accordance with section IV. F. below of this section. 2/

F. Duration of an inspection

[The period of inspection shall not exceed ... hours. It may be extended by agreement with the inspected State Party by no more than ... hours. 3/]

IV. DEPARTURE

[1. At the inspected State Party's request, the clothing and equipment shall be left at the site. The inspected State Party shall reimburse the Technical Secretariat for the cost of any clothing and equipment left by the inspection team.]

2. Upon completion of the post-inspection procedures at the inspection site, the inspection team and the observer of the requesting State Party shall return promptly to the point of entry at which it entered the inspected State Party or host State and it shall then leave the territory of that State [within 24 hours] [as soon as possible].

1/ A view was expressed that the inspection should be conducted strictly within the site as originally specified by the Organization, and there should be no such extension.

2/ A view was expressed that it might not be necessary to formally resort back to the requesting State Party which is already involved in the whole process of the inspection through its observer as currently foreseen in the latter part of paragraph 3, section "Observers".

3/ It has been suggested that before limits of an inspection are specified, it would be useful to explore the relationship between the size of the area to be inspected, the duration of the inspection and the size of the inspection team.

V. REPORTS

A. Contents

The inspection report shall summarize in a general way the activities conducted by the inspection team and the factual findings of the inspection team, particularly with regard to the ambiguities or suspected non-compliance cited in the request for the challenge inspection. Detailed information relating to the ambiguity or suspected non-compliance cited in the request for the challenge inspection shall be submitted as an Appendix to the final report and be retained within the Technical Secretariat under appropriate safeguards to protect sensitive information.

B. Procedures

The Inspectors shall within 72 hours of their return to their primary work location 1/ submit a preliminary inspection report to the Director-General of the Technical Secretariat. The Director-General shall promptly transmit the preliminary report to the rquesting State Party, the inspected State Party and to the Executive Council. A draft final report shall be made available to the inspected State Party within [20] days of the completion of the inspection for identification of any non-CW-related information it considers should due to its confidentiality not be circulated outside the Technical Secretariat. The Technical Secretariat shall consider proposals for changes to their draft final report made by the inspected State Party and using its own discretion, wherever possible, adopt them. The final report shall be submitted within [30] days of the completion of the inspection and be circulated to State Parties. 2/

1/ The implication of the as yet undefined term "primary work location" requires further consideration.

2/ A view was expressed that the requesting State Party should also have the right to access to the report at any early stage.

PART IV: PROCEDURES IN CASES OF ALLEGED USE OF CHEMICAL WEAPONS 1/

I. GENERAL

1. On-site inspections, initiated pursuant to Articles IX [and/or X] 2/ of the Convention, to investigate an alleged use of chemical weapons shall be conducted in accordance with this Protocol and detailed procedures to be established by the Director General of the Technical Secretariat. Wherever appropriate, the provisions relating to challenge inspections shall apply.

2. In establishing detailed procedures for the investigation of alleged uses of chemical weapons, the Director General of the Technical Secretariat shall take into account relevant procedures established within the framework of the United Nations.

II. ACCESS

In addition to the access 3/ to the site[s] specified in its mandate the inspection team shall also have the right to access to hospitals, refugee camps and other locations it deems relevant to the effective investigation of the alleged use of chemical weapons. 4/

III. SAMPLES

The inspection team has the right to collect samples, of types and in quantities it considers necessary. Upon request the inspected State Party shall assist in the collection of samples. The inspected State Party shall also permit and co-operate in the collection of appropriate control samples from areas neighbouring the site of the alleged use and from other areas as requested by the inspection team.

1/ This part will need further discussion and elaboration. Whether procedures developed for the Secretary-General of the United Nations under UNGA Res 42/37 C might be adopted might require further consideration. In addition work done by Canada and Norway on the issue might help to elaborate this section further.

2/ The applicability of these provisions to investigations initiated by the Director General of the Technical Secretariat under Article X needs further consideration.

3/ A view was expressed that consideration should be given to the special situation that might exist at locations such as battlefields where the challenged State may not control access and where peacetime constraints cannot realistically be expected to be met.

4/ A view was expressed that such locations should be further discussed.

IV. INTERVIEWS

The inspection team shall have the right to interview and examine persons who may have been affected by the alleged use of chemical weapons. It shall also have the right to interview eyewitnesses of the alleged use of chemical weapons and medical personnel and/or other persons who have treated or have come into contact with the people who may have been affected by the alleged use of chemical weapons. The inspection team shall have access to medical histories, if available, and be permitted to participate in autopsies as appropriate of the persons who may have been affected by the alleged use of chemical weapons.

V. EXTENSION OF INSPECTION DURATION

If the inspection team deems that safe access to the specified site is not possible, the requesting State Party shall be informed immediately. 1/ If necessary the period of inspection shall be extended until safe access can be provided and the inspection team will have concluded its mission. 2/

VI. STATES NOT PARTY

In the case of alleged use of chemical weapons involving a non-State Party or on territory not controlled by a State Party the Organization shall closely co-operate with the Secretary-General of the United Nations. 3/

1/ A view was expressed that a provision to the effect that State Parties shall undertake not to take action which may endanger the safety of the inspection team is needed.

2/ The concept of extension of the period of inspection in such cases needs further consideration.

3/ The view was expressed that further consideration is needed on the relationship between the United Nations and the Organization with regard to investigations involving non-State Parties.

APPENDIX II

PRINCIPLES AND ORDER OF DESTRUCTION OF CHEMICAL WEAPONS 1/

1. The elaboration of the Order of Destruction shall build on the undiminished security for all States during the entire destruction stage, confidence-building in the early part of the destruction stage, gradual acquisition of experience in the course of destroying chemical weapons stocks and applicability irrespective of the actual composition or size of the stockpiles and the methods chosen for the destruction of the chemical weapons.

2. Each State Party possessing chemical weapons shall begin destruction not later than one year after it becomes a Party to the Convention, and all stockpiles must have been destroyed by the end of the tenth year after the entry into force of the Convention. 2/

3. The entire destruction period is divided into annual periods.

4. For the purpose of destruction, chemical weapons declared by each State Party are divided into three categories:

Category 1: Chemical weapons on the basis of Schedule 1 chemicals;

Category 2: Chemical weapons on the basis of all other chemicals;

Category 3: Unfilled munitions and devices, and equipment specifically designed for use directly in connection with employment of chemical weapons.

5. The Order of Destruction shall be based on the principle of levelling out the stockpiles of chemical weapons of State Parties, while observing the principle of undiminished security. (The level of such stockpiles shall be agreed upon).

6. Each State Party possessing chemical weapons

- shall start the destruction of Category 1 chemical weapons not later than one year after it becomes a Party to the Convention, and shall complete it not later than 10 years after the entry into force of the Convention; the comparison factor for such weapons shall be agent tons, i.e. the aggregate weight of the chemicals within such Category,

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1/ Some delegations drew attention to another proposal which suggests a specific phased approach, including a special phase for advance destruction by the largest chemical weapons owners until midway of the destruction period. This proposal is contained in CD/822 of 29 March 1988.

2/ The view was expressed that possible additional provisions applicable to States possessing chemical weapons but which ratify the Convention at a later stage would need to be discussed. The view was also expressed that the Convention should include from the beginning all States possessing chemical weapons. Another view was expressed that the final version of this paragraph depends on what is agreed in Article IV.

- shall start the destruction of Category 2 chemical weapons not later than one year after it becomes a Party to the Convention and shall complete it not later than five years after the entry into force of the Convention; the comparison factor for such weapons shall be agent tons, i.e. the aggregate weight of the chemicals within such Category,

- shall start the destruction of Category 3 chemical weapons not later than one year after it becomes a Party to the Convention, and shall complete it not later than five years after the entry into force of the Convention; the comparison factor(s) for unfilled munitions and devices shall be expressed in fill volume (m3) and for equipment in number of items.

7. Within each Category a State Party shall carry out the destruction in such a way that not more than what is specified in the table below remains at the end of each annual period. A State Party is not precluded from destroying its stocks at a faster pace.

TABLE

Year	Category 1	Category 2	Category 3
2			
3			
4			
5		(TO BE DEVELOPED)	
6			
7			
8			
9			
10			

8. Within each category a State Party shall determine its detailed plans for each annual period in such a way that not more than what is specified in the Convention will remain by the end of each such period.

These plans shall be submitted to and approved by the Executive Council, in accordance with the relevant provisions in Section V of the Annex to Article IV.

9. Each State Party shall report annually to the Organization on the implementation of the destruction in each annual period.

POSSIBLE FACTORS IDENTIFIED TO DETERMINE THE NUMBER, INTENSITY, DURATION, TIMING AND MODE OF INSPECTIONS OF FACILITIES HANDLING SCHEDULE 2 CHEMICALS 1/ 2/

1. Factors related to the listed chemical

   (a) Toxicity of the end-product.

2. Factors related to the facility

   (a) Multipurpose or dedicated facility.

   (b) Capability and convertibility for initiating production of highly toxic chemicals.

   (c) Production capacity.

   (d) On-site storage of listed key precursors in quantities exceeding ... tonnes.

   (e) Location of the facility and infrastructure for transportation.

3. Factors related to the activities carried out at the facility

   (a) Production e.g. continuous, batch, types of equipment.

   (b) Processing with conversion into another chemical.

   (c) Processing without chemical conversion.

   (d) Other types of activities, e.g. consumption, import, export, transfer.

   (e) Volume produced, processed, consumed, transferred.

   (f) Relationship between maximum and utilized capacity for a scheduled chemical.

      - multipurpose facility

      - dedicated facility

4. Other factors

   (a) International monitoring by on-site instruments.

   (b) Remote monitoring.

1/ The terminology of this material might have to be revised on the basis of the present stage of negotiations.

2/ The order in which these factors are listed does not indicate any priority.

REPORT ON HOW TO DEFINE "PRODUCTION CAPACITY" 1/

During the 1987 session, consultations were held with Lt. Col. Bretfeld (German Democratic Republic), Dr. Cooper (United Kingdom), Prof. Kuzmin (USSR), Dr. Mikulak (United States), Dr. Ooms (Netherlands) and Prof. Pfirschke (Federal Republic of Germany), as well as with Col. Koutepov (USSR) and Col. Lovelace (United States). This report summarized the results of the consultations, as seen by the rapporteur, Dr. Santesson (Sweden).

Although it was generally felt that it would be desirable to have one definition of "production capacity" applicable all through the Convention, it was also concluded that this might not be possible.

A definition could consist of a verbal part and a mathematical formula to be used for the calculation of the numerical value of the production capacity. Such a single definition, as exemplified below, could be utilized in the Annex to Article V, paragraphs I.A.5 (a) and I.B.7 (cf. in this context CD/CW/WP.148), in Annex 2 to Article VI, paragraph 2 in Annex 3 to Article VI, paragraph 1 (iv), and in the case of "Possible factors identified to determine ... Schedule 2 chemicals", contained in Appendix II.

On the basis of CD/CW/WP.171 and proposals presented during the consultations, the following suggestion was worked out.

Verbal part:

Alt. 1 The production capacity is the annual quantitative potential for manufacturing a specific substance on the basis of the technological process used at a facility where the substance in question is actually produced.

Alt. 2 The production capacity is the annual quantitative potential for manufacturing a specific substance on the basis of the technological process actually used or planned to be used at a facility.

Mathematical formulae:

Production capacity per year =

$$= \frac{\text{quantity produced}}{\text{hours of production}} \times \text{constant} \times \text{no. of units}$$

or in the case of dedicated units not yet in operation

$$= \frac{\text{nameplate or design capacity}}{\text{hours of planned operation}} \times \text{constant} \times \text{no. of units}$$

1/ As this material was developed prior to the elaboration of the Annex on Chemicals and the current text of Annex 1 to Article VI terminology and concepts therein do not fully reflect the present stage of negotiations.

The constant is the number of hours of availability per year. In both formulae, the constant will have different values for continuous and batch operations. Furthermore, different values may have to be assigned for "dedicated batch processes" and "multipurpose batch processes". The values of the constant remain to be determined.

It was noted that the formulae relate to the production step in which the product is actually formed. They might not necessarily be applicable e.g. to subsequent purification steps in the process.

It was also noted that in the case of multipurpose facilities producing more than one declared chemical, the production capacity of the facility for each of the chemicals should be calculated independently of the other chemicals being produced.

In the case of the Annex to Article VI [...], 1/ it appears that for limited production, the above mathematical formulae might possibly give rise to an overestimate of the actual production capacity. It was suggested that the formulae could be used if the annual production was more than five tonnes.

In the case of Annex 1 to Article VI it was felt that the above type of definition would be unsuitable and that other ways of delimiting the "production capacity" of the single small-scale production facility should be explored. 2/

Further refinement of the definition of production capacity is required. Also, methods for verification of the declared production capacity will have to be discussed. In this context opinions were expressed on the use of production log books and to which extent inspectors would need access to technical information on the production process.

As a continuation of the consultations reported in CD/795, further consultations were held with Dr. Boter (Netherlands), Lt. Col. Bretfeld (German Democratic Republic), Dr. Cooper (United Kingdom) Prof. Kuzmin (Union of Soviet Socialist Republics), Prof. Pfirschke (Federal Republic of Germany) and Dr. Schröder (Federal Republic of Germany). This report summarizes the results of the continued consultations, as seen by the rapporteur, Dr. Santesson (Sweden).

In the view of the technical experts, "production capacity" could be defined thus:

1/ Work during the 1989 session led to the deletion of Schedule [...] and the creation of Schedule 2 part B.

2/ The current delimitation of "production capacity" of the single small-scale facility is expressed in terms of mode of operation and volume of reaction vessels in Annex 1 to Article VI.

The production capacity is the annual quantitative potential for manufacturing a specific substance on the basis of the technological process actually used or, in case of processes not yet operational, planned to be used at the facility, as specified in the subsidiary agreements.

For the purpose of the declaration, an approximate production capacity shall be calculated using the formula:

Production capacity (tons/year) =

$$= \frac{\text{des. cap.}}{\text{pl. op. hours}} \times \text{op. factor} \times \text{no. of units}$$

where:

des. cap. = nameplate or design capacity of one unit (tons/year)
pl. op. hours = hours of planned operation to achieve the design capacity
op. factor = operational factor (hours)

The operational factor should take into account the various facility-specific and process-specific factors which would affect the actual practical production capacity, and could e.g. be determined during the initial visit. A need might exist for a provisional value of the operational factor to be applied before the initial visit has taken place.

MODELS FOR AGREEMENTS

A. MODEL FOR AN AGREEMENT RELATING TO FACILITIES PRODUCING, PROCESSING OR CONSUMING CHEMICALS LISTED IN SCHEDULE 2

1. Information on the facility producing, processing, or consuming chemicals listed in Schedule 2

(a) Identification of the site and the facility

(i) Site identification code

(ii) Name of the complex/site

(iii) Owner(s) of the complex/site on which the facility is located

(iv) Name of the company/enterprise operating the facility

(v) Exact location of the facility

(1) Address and location (geographic co-ordinates) of the head-quarter building(s) of the site/complex

(2) Location (including the geographic co-ordinates, specific building and structure number) of the plant/reactor within the site/complex

(3) Location(s) of the relevant building(s)/structure(s) comprising the facility within the site/complex.

These might include:

(a) Headquarters and other offices

(b) Operation Process Unit

(c) Storage/handling areas for feedstock and product

(d) Purification equipment

(e) Effluent/waste handling/treatment area

(f) All associated and interconnecting pipework

(g) Control/analytical laboratory

(h) Warehouse storage

(i) Records associated with the movement of the declared chemical and its feedstock or product chemicals formed from it, as appropriate, into, around and from the site

(j) Medical centre

(vi) Other areas to which Inspectors have access.

(b) Detailed technical information

Design information to be obtained during the initial visit should, as relevant, include:

(i) Data on the production process (type of process: e.g. continuous or batch; type of equipment; the technology employed; process engineering particulars)

(ii) Data on processing with conversion into another chemical (description of the conversion process, process engineering particulars and end-product)

(iii) Data on processing without chemical conversion (process engineering particulars, description of the process and the end-product, concentration of processed chemical in the end-product)

(iv) Data on feedstocks used in the production of processing of declared chemicals (type and capacity of storage)

(v) Data on product storage (type and capacity of storage)

(vi) Data on waste/effluent treatment (disposal and/or storage; waste/effluent treatment technology; recycling)

(vii) Data on clean-up procedures and general maintenance and overhauls

(viii) Plan of the complex/site showing the location of the facility as defined in paragraph 1 (a) (v) and other areas as specified in paragraph 1 (a) (vi), including, with functions specified, for example, all buildings, structures, pipework, roads, fences, mains electricity, water and gas points

(ix) Diagram indicating the relevant material flow and sampling points at the facility.

(c) Data on safety and health measures on-site

(d) Identification of the required degree of confidentiality for information provided during the elaboration of the agreement.

2. Specific facility health and safety rules and regulations to be observed by Inspectors

3. Inspections

On-site inspection activities may include, but shall not necessarily be restricted to, the following:

(i) Observation of any and all activities at the facility including safety measures

(ii) Identification and examination of any and all equipment at the facility

(iii) Identification, verification and registration of any technological or other changes in comparison with the detailed technical information ascertained when the facility agreement was worked out

(iv) Identification and examination of documentation and records

(v) Installation, review, servicing, maintenance and removal of monitoring equipment and seals

(vi) Identification and validation of measuring and other analytical equipment (examination and calibration using, as appropriate, independent standards)

(vii) Taking of analytical samples and their analysis

(viii) Investigation of indications of irregularities.

4. Monitoring with instruments on-site

(a) Specification of items and their locations

(i) Instruments supplied by the Technical Secretariat

(ii) Instruments at/supplied by the facility

(b) Installation of the instruments and seals, as appropriate

(i) Time schedule

(ii) Advance preparations

(iii) assistance provided by the facility during installation

(c) Activation, initial testing and certification

(d) Operation

(i) Operating mode

(ii) Routine testing provisions

(iii) Service and maintenance

(iv) Measures in case of malfunctions

(v) Replacement, modernization and removal

(e) Responsibilities of the State Party

5. Instruments and other equipment to be used during the inspections

(a) Instruments and other equipment brought in by the Inspectors

(i) Description

(ii) Examination, as appropriate, by the facility

(iii) Use

(b) Instruments and other equipment provided by the State Party

(i) Description

(ii) Testing, calibration and examination by the Inspectors

(iii) Use and maintenance

6. Sample-taking, on-site analysis of samples

(a) Identification of routine sampling points from

- production or process unit

- stocks, including warehouse, feedstock, storage

(b) Other sample-taking (including wipe samples, environmental and waste/effluent samples)

(c) Sample-taking/handling procedures

(d) On-site analyses (e.g. provisions concerning on-site/in-house analyses, analytical methods, sensitivity and accuracy of analyses)

7. Removal of samples from the facility

(a) in-house analysis off-site

(b) other

8. Records and other documentation

(1) Records

(a) Accounting records e.g., quantities of all relevant chemicals moved on to and off site

(b) Operating records e.g., quantities of chemicals moved through the process unit

(c) Calibration records as appropriate.

(2) Other documentation

(3) Location of records/documentation

(4) Access to records/documentation

(5) Language of records/documentation

9. Confidentiality

Identification of the required degree of confidentiality for information obtained during the inspection;

10. Services to be provided

Such services may include, but shall not necessarily be restricted to the following:

(a) Medical and health services

(b) Office space for Inspectors

(c) Laboratory space for Inspectors

(d) Technical assistance

(e) Communications

(f) Power and cooling water supplies for instruments

(g) Interpretation services

For each type of services, the following information shall be included:

(a) The extent to which that service shall be provided

(b) Points of contact at the facility for the service

11. Updating, changes and revisions of the agreement

12. Other matters

Explanatory note

During the review of the Model for an Agreement relating to facilities producing, processing or consuming chemicals listed in Schedule 2 the words facility, plant, operating process unit, site and complex have been understood as follows:

1. Site. An area, whether or not within a retaining boundary, which is under the operational control of the HQ defined in para. 1 (a) V (1). A site may contain one or more plants.

2. Complex. A large area comprising a number of autonomous sites which are not necessarily under the same operational control. There is doubt about the validity of this concept for this model for agreement.

3. Plant. A relatively self-contained area/structure located on a site in which the production, processing or consumption of a particular type of chemical occurs (e.g., an organophosphorus plant, a packaging plant), or where particular types of operating units are grouped e.g., a multi-purpose plant. A plant may contain one or more operating process units.

4. Operating Process Unit. The central array of equipment in a particular plant wherein the declared chemical is produced, processed or consumed. This might include reactor vessel, distillation and condenser units.

5. Facility. All structures and buildings (referred to in para. 1 above) associated with the production, consumption and processing of the declared chemical.

These might include:

(a) Headquarters and other offices

(b) Operation Process Unit

(c) Storage/handling areas for feedstock and product

(d) Purification equipment

(e) Effluent/waste handling/treatment area

(f) All associated and interconnecting pipework

(g) Control/Analytic laboratory

(h) Warehouse storage

(i) Records associated with the movement of the declared chemical and its feedstock or product chemicals formed from it, as appropriate, into, around and leaving the site

(j) Medical centre

B. MODEL FOR AN AGREEMENT RELATING TO SINGLE SMALL-SCALE FACILITIES 1/

Proposal by the Co-ordinator of Cluster IV for the 1987 session

1. Information on the single small-scale facility

(a) Identification

(i) Facility identification code

(ii) Name of the facility

(iii) Exact location of the facility

If the facility is located within a complex, then also

- Location of the complex
- Location of the facility within the complex, including the specific building and structure number, if any
- Location of relevant support facilities within the complex, e.g. research and technical services, laboratories, medical centres, waste treatment plants
- Determination of the area(s) and place(s)/site(s) to which Inspectors shall have access

(b) Detailed technical information

(i) Maps and plans of the facility, including site maps showing, with functions indicated, for example, all buildings, pipework, roads, fences, mains electricity, water and gas points, diagrams indicating the relevant material flow at the designated facility and data on infrastructure for transportation

(ii) Data on each production process (type of process, type of equipment, technology employed, production capacity, process engineering particulars)

(iii) Data on the feedstocks used (type of feedstock, storage capacity)

(iv) Data on the storage of the chemicals produced (type and capacity of storage)

(v) Data on waste treatment (disposal and/or storage, waste treatment technology, recycling)

1/ Prepared by Lt. Col. Bretfeld, German Democratic Republic; Dr. Cooper, United Kingdom; Dr. Lau, Sweden; and Dr. Santesson, Sweden.

(c) Specific facility health and safety procedures to be observed by Inspectors

(d) Dates

(i) Date when the initial visit took place

(ii) Date(s) when additional information was provided

(e) Storage of information

Identification of which information, provided about the facility under paragraph 1, shall be kept by the Technical Secretariat under lock and key at the facility.

2. Number and modalities of inspections

The number and modalities of inspections shall be decided by the Technical Secretariat on the basis of guidelines.

3. Inspections

On-site inspection activities may include, but shall not necessarily be restricted to, the following:

(i) Observation of any and all activities at the facility

(ii) Examination of any and all equipment at the facility

(iii) Identification of technological changes in the production process

(iv) Comparison of process parameters with those ascertained during the initial visit

(v) Verification of chemical inventory records

(vi) Verification of equipment inventory records

(vii) Review, servicing and maintenance of monitoring equipment

(viii) Identification and validation of measuring equipment (examination and calibration of measuring equipment, verification of measuring systems using, as appropriate, independent standards)

(ix) Application, examination, removal and renewal of seals

(x) Investigation of indicated irregularities

4. Monitoring system

(a) Description of items and their location

(i) Sensors and other instruments

(ii) Data transmission system

(iii) Ancillary equipment

(iv) ...

(b) Installation of the system

(i) Time schedule

(ii) Advance preparations

(iii) Assistance to be provided by the State Party during installation

(c) Activation, initial testing and certification

(d) Operation

(i) Regular operation

(ii) Routine tests

(iii) Service and maintenance

(iv) Measures in case of malfunctions

(v) Responsibilities of the State Party

(e) Replacement, modernization

5. Temporary closure

(a) Notification procedure

(b) Description of the types of seals to be used

(c) Description of how and where seals shall be fixed

(d) Provisions for surveillance and monitoring

6. Instruments and other equipment to be used during inspections

(a) Instruments and other equipment installed or brought in by Inspectors

(i) Description

(ii) Testing, calibration and examination by the State Party

(iii) Use

(b) Instruments and other equipment to be provided by the State Party

(i) Description

(ii) Testing, calibration and examination by Inspectors

(iii) Use and maintenance

7. Sample-taking, on-site analyses of samples and on-site analysis equipment

(a) Sample-taking from production

(b) Sample-taking from stocks

(c) Other sample-taking

(d) Duplicates and additional samples

(e) On-site analyses (e.g. provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)

8. Records. The records to be examined shall be determined after the initial visit and shall include the following:

(a) Accounting records

(b) Operating records

(c) Calibration records

The following shall be determined on the basis of the initial visit:

(a) Location and language of records

(b) Access to records

(c) Retention period of records

9. Administrative arrangements

(a) Preparations for the arrival and departure of Inspectors

(b) Transport of Inspectors

(c) Accommodation for Inspectors

(d) ...

10. Services to be provided 1/

Such services may include, but shall not necessarily be restricted to, the following:

(a) Medical and health services

1/ The question of charges for the services needs to be discussed.

(b) Office space for Inspectors

(c) Laboratory space for Inspectors

(d) Technical assistance

(e) Telephone and telex

(f) Power and cooling water supplies for instruments

(g) Interpretation services

For each type of service, the following information shall be included:

(a) The extent to which that service shall be provided

(b) Points of contact at the facility for the service

11. Other matters

12. Revisions of the agreement

C. MODEL FOR AN AGREEMENT RELATING TO CHEMICAL WEAPONS STORAGE FACILITIES 1/

Proposal by the Co-ordinator of Cluster IV for the 1987 session

1. Information on the storage facility

(a) Identification:

(i) Storage facility identification code;

(ii) Name of the storage facility;

(iii) Exact location of the storage facility.

(b) Dates:

(i) Date of the initial verification of the Declaration of the facility;

(ii) Date(s) additional information provided

(c) Layout:

(i) Maps and plans of the facility, including

- boundary map to show entrances, exits, nature of boundary (e.g. fence);

- site maps to include locations of all buildings and other structures, bunkers/storage areas, fences with access points indicated, mains electricity and water points, and infrastructure for transports including loading areas;

(ii) Details of the construction of bunkers/storage areas which might be of relevance for verification measures;

(iii) ...

(d) Detailed inventory of the contents of each bunker/storage area;

(e) Specific facility health and safety procedures to be observed by Inspectors.

2. Information relating to the transport of chemical weapons from the facility

(a) Detailed description of loading area(s);

(b) Detailed description of loading procedures;

1/ Prepared by Lt. Col. Bretfeld, German Democratic Republic; Dr. Cooper, United Kingdom; Dr. Lau, Sweden; and Dr. Santesson, Sweden.

(c) Type of transport to be used, including construction details relevant to verification activities, e.g. where to place seals;

(d) ...

3. Number and modalities of systematic inspections, etc.

The number and modalities of systematic inspections will be decided by the Technical Secretariat on the basis of guidelines.

4. Inspections

(a) Systematic on-site inspections

Systematic on-site inspection activities may include, but are not necessarily restricted to, the following:

(i) Application, examination, removal and renewal of seals;

(ii) Review, servicing and maintenance of monitoring equipment;

(iii) Verification of the inventory of randomly selected sealed bunkers/storage areas.

- Percentage of bunkers/storage areas to be verified during each systematic on-site inspection.

(b) On-site inspections of transports from the facility

On-site inspections of transports of chemical weapons from the storage facility may include, but are not necessarily restricted to, the following:

(i) Application, examination, removal and renewal of any seals relevant to the transportation of chemical weapons;

(ii) Verification of the inventory of bunkers/storage areas from which chemical weapons are to be transported;

(iii) Observation of the loading procedure and verification of items loaded;

(iv) Adjustment/realignment of the coverage of the monitoring system.

(c) Inspections to resolve indicated irregularities (ad hoc inspections)

Ad hoc inspection activities may include, but are not necessarily restricted to, the following:

(i) Investigation of indicated irregularities;

(ii) Examination, removal and renewal of seals;

(iii) Verification as required of the inventory of bunkers/storage areas.

(d) Continuous presence of Inspectors

The activities of continuously present Inspectors may include, but are not necessarily restricted to, the following:

(i) Application, examination, removal and renewal of seals;

(ii) Verification of the inventory of any selected sealed bunkers/storage areas;

(iii) Observation of any and all activities at the storage facility, including any handling of stored chemical weapons for the purpose of transport from the storage facility.

5. Seals and markers

(a) Description of types of seals and markers

(b) How and where seals are to be fixed

6. Monitoring system

(a) Description of items and their locations:

(i) Sensors and other instruments;

(ii) Data transmission system;

(iii) Ancillary equipment;

(iv) ...

(b) Installation:

(i) Time schedule;

(ii) Advance preparations at the storage facility;

(iii) Assistance to be provided by the State Party during installation.

(c) Activation, initial testing and certification

(d) Operation:

(i) Regular operation;

(ii) Routine tests;

(iii) Service and maintenance;

(iv) Measures in case of malfunctions;

(v) Responsibilities of the State Party.

(e) Replacements, modernizations

(f) Dismantling and removal

7. Provisions governing instruments and other equipment to be used during inspections

(a) Instruments and other equipment brought in by Inspectors:

(i) Description;

(ii) Testing, calibration and examination by the State Party;

(iii) Routine use.

(b) Instruments and other equipment to be provided by the State Party:

(i) Description;

(ii) Testing, calibration and examination by Inspectors;

(iii) Routine use and maintenance.

8. Provisions governing sample-taking, on-site analyses of samples and on-site analysis equipment

(a) Sample-taking from munitions, notably the standardization of methods for each different type of munition present at the facility

(b) Sample-taking from bulk stocks

(c) Other sample-taking

(d) Duplicates and additional samples

(e) On-site analyses (e.g. provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)

9. Administrative arrangements

(a) Preparations for arrival of Inspectors

(b) Transport for Inspectors

(c) Accommodation for Inspectors

(d) ...

10. Services to be provided 1/

Such services should include, but are not necessarily restricted to, the following:

- medical and health services;
- office space for Inspectors;
- laboratory space for Inspectors;
- technical assistance;
- telephone and telex;
- power and cooling water supplies for instruments;
- interpretation services.

For each type of service, the following information should be included:

- the extent to which that service is to be provided;
- point of contact at the facility for the service.

11. Amendments and revisions of the agreement

(e.g. changes in loading procedures, types of transport, analytical methods)

12. Other matters

1/ The question of charges for the services needs to be discussed.

OUTCOME OF THE OPEN-ENDED CONSULTATIONS ON THE EXECUTIVE COUNCIL

Working basis on composition and decision-making process

During the 1989 session, the Chairman of the Ad Hoc Committee carried out private and open-ended consultations on the composition and decision-making process of the Executive Council.

This paper contains the preliminary outcome of these consultations. It is presented with the aim of facilitating the further consideration of this issue. It should be stressed that delegations involved in the consultations accepted, as a working basis only, a hypothetical Executive Council of 25 members, then proceeded to examine issues associated with the Executive Council on that basis. Neither the basic hypothesis nor the options discussed about size, composition, allocation of seats and decision-making process, nor any of the positions formulated during the consultations constitute agreement; they do not necessarily represent any delegation's national position.

A. Size 1/

1. The Executive Council shall be composed of (25?) 2/ States Parties to the Convention, (with ... members?) elected for a (3?)-year term.

2. (8/9?) members shall be elected every (?) years(s). 3/

3. Monthly rotating chairmanship / or Chairman elected for (1?) year by the Executive Council/or the Conference of the States Parties; / or the Chairman of the Conference of the States Parties shall serve as a non-voting Chairman of the Executive Council.

B. Composition

Taking into account the eligibility of each State Party to serve on the Executive Council and the need to ensure an equitable balance in membership, its composition:

1. shall be based on the representation of the five regional groups of the United Nations;

2. and on / the national capacity in the relevant 4/ chemical industry / and on / the political factor/

1/ The possibility of a specific decision on change in size of the Executive Council to be provided for in advance has been discussed.

2/ Proposals made range from 15 to 35.

3/ The subjects of re-election and of non-elected members have been discussed.

4/ The view was expressed that the word "relevant" should be further discussed.

C. Allocation of seats

1. The allocation of seats could be made on the following basis:

- Each of the five regional groups will be allotted (3?) seats; these will be filled by members elected by the Conference of the States Parties on the proposals by the regional groups.

- The remaining seats (10?) will be filled (on proposal by the Executive Council,) in accordance with paragraph B.2 (by members elected by the Conference of the States Parties).

2. A number of concrete formulae could be derived from A., B. and C.1 1/

1/ The following concrete formulae have been discussed:

(a) Allocation of 5 seats per regional group of the United Nations, taking into account the industrial and political considerations within each region.

(b) Allocation of seats to the 5 permanent members of the United Nations Security Council, with the remaining seats apportioned equally among the 5 regional groups.

(c) Allocation of 3 seats per regional group and 10 seats on the basis of industrial criterion to be determined.

(d) Allocation of 5 seats to the 5 most industrially advanced States Parties in the world; allocation of one seat each to the industrially most advanced States Parties in the regions not covered by the first category; and allocation of the remaining seats to the 5 regional groups, with 4 seats for the 2 groups not covered by the second category.

(e) Allocation of 3 seats per regional group and 10 seats on the basis of the political factor to be determined.

(f) Allocation of 3 seats per regional group; and 10 seats on the basis of industrial criteria to be determined, with at least 3 of the latter being allotted to Latin America/Africa/Asia.

(g) Allocation of 3 seats per regional group; allocation of 5 seats to the industrially most advanced States Parties; allocation of 5 seats taking into account the political factor following a 2-1-1-1 pattern.

(h) (10?) seats on proposal by the Executive Council "amongst States Members whose presence in the Executive Council would be beneficial for the good functioning of the Convention"; allocation of 4 seats per regional group of which 2 seats to the industrially most advanced States Parties of each group not included in the former category.

(i) Allocation of seats on the basis of the requirement of regional spread and the weight to be allotted to a country in relation to its industrial importance.

D. Decision-making process

1. Each member of the Executive Council has one vote.

2. The decision-making process of the Executive Council could be based on: simple majority for matters of procedure; consensus for matters of substance; and after ... hours a majority of (...).

3. Voting requirements other than a two-thirds majority could be developed in order to prevent any preponderance. */

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*/ A view was expressed that, in order to prevent preponderance, the decision-making process should be such that no one regional group could impose a decision on others and, in turn, could not be imposed upon with a decision it does not agree with.

CLASSIFICATION SYSTEM OF CONFIDENTIAL INFORMATION 1/

During the verification activities under the Chemical Weapons Convention the proper balance should be observed between the degree of intrusiveness and the need to protect confidential information. Only when necessary data reporting and verification should rely on confidential information. Its handling shall not be in conflict with the existing international legal norms, namely with regard to the protection of intellectual property. In drawing the rules for handling and protection of confidential information the Director-General of the Technical Secretariat shall use the following classification, establishing the level of confidentiality of information:

(a) Information, which could be released for public use through the official reports of the Organization to the United Nations or other institutions or upon request to States Non-Parties to the CWC, various organizations or individuals. The Executive Council shall determine the general parameters covering the release of information for public use, within which the Director-General of the Technical Secretariat shall consider and decide upon individual requests. Requests going beyond these parameters shall be referred to the Executive Council for decision. However, information from other classifications related to specified States Parties shall not be made public without the consent of the State Party concerned. The Director-General may disseminate any other information in accordance with a request by a State Party to which the information refers. This category shall cover, i.a., general information on the course of the implementation of the Convention.

(b) Information with distribution limited to States Parties to the Convention. The main source of such information will be the Initial and Annual Declarations on the aggregate quantities of chemicals produced and number of facilities operating in individual States Parties. Data of such nature might be included in the reports to various bodies of the Organization. States Parties shall have easy access to such information and shall treat it as confidential (e.g. not to be offered to press). A routine distribution of this information shall be made to the Executive Council members and to the Technical Secretariat. Data, not contained in the regular reports, might be requested by States Parties. The Director-General shall respond positively to such requests, unless they contravene the agreed rules for the classification of confidential information.

(c) Information limited to the Technical Secretariat, to be used primarily for the planning, preparation and carrying out of verification activities. This category shall comprise mainly detailed, facility-related information, obtained from the relevant declarations, facility attachments and conclusions from on-site inspections. The Director-General shall regulate the access to such information by the Technical Secretariat personnel on the "need-to-know" basis. Respect by the International Inspectorate and other Technical Secretariat personnel for confidential nature of information

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1/ This material shall be transferred to the Preparatory Commission/ Director-General of the Technical Secretariat for consideration in the elaboration of relevant regulations.

obtained will be ensured through contracts or appropriate recruitment and employment procedures as well as agreed measures applied against the Technical Secretariat staff in case of breach of rules for the protection of confidential information. Most sensitive information might be stored under code numbers rather than names of countries and facilities. Information, achieved through generalization of the facility-related data, could be, in accordance with the agreed procedure, released for use by States Parties.

(d) Most sensitive kind of confidential information, containing data required only for the actual performance of an inspection like, e.g. blueprints, specific data related to technological processes, types of records. Such information shall be limited to justified needs for protection of technological know-how and shall only be available to inspectors on the site. It shall not be taken from the premises.

* * *

The rules for classifying and handling of confidential information should contain sufficiently clear criteria ensuring:

- inclusion of information into appropriate category of confidentiality;
- establishing justified durability of confidential nature of information;
- rights of States Parties providing confidential information;
- procedures allowing, if necessary, to move a kind of information from one confidentiality category to another;
- modifications, when necessary, of procedures for handling individual categories of information.

OUTCOME OF THE OPEN-ENDED CONSULTATIONS ON ARTICLE IX, PART 2: ON-SITE INSPECTION ON CHALLENGE

During the 1989 session, the Chairman of the Ad Hoc Committee carried out private and open-ended consultations on Article IX, Part 2 (on-site inspection on challenge). 1/ These consultations were based on the text elaborated by the Chairman of the Ad Hoc Committee for the 1987 session, Ambassador Rolf Ekéus of Sweden and by the Chairman of Working Group C for the 1988 session, as contained in CD/952, Appendix II, pages 193-195.

This paper contains the outcome of these consultations but does not address all the issues covered in the former text. The paper is not presented as a draft Article IX, Part 2, but with the aim of furthering the process of elaboration of Article IX. Although the text of this paper is unbracketed, it does not necessarily constitute agreement.

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1. Each State Party has the right to request an on-site inspection in any other State Party in order to clarify (and resolve) any matter which causes doubts about compliance with the provisions of the Convention, or any concern about a matter pertaining to the implementation of the Convention and which is considered ambiguous, and to have this inspection conducted anywhere, at any time and without delay by a team of inspectors designated by the Technical Secretariat. The inspection shall be mandatory, with no right of refusal. A requesting State is under the obligation to keep the request within the scope of the Convention. Throughout the inspection, the requested State has the right and is under the obligation to demonstrate its compliance with the Convention.

2. The request shall be submitted by the requesting State to the Director-General of the Technical Secretariat, 2/ 3/ who shall immediately notify the State to be inspected and inform the members of the Executive Council (as well as all other States Parties). The requesting State Party shall, as precisely as possible, specify the site to be inspected 4/ and the matters on which reassurance is required, including the nature of the suspected non-compliance, as well as indicate the relevant provisions of the Convention about which doubts of compliance have arisen.

1/ A view was expressed that these consultations are preliminary, exploratory in nature and inexhaustive. Some major elements contained in this document require further consideration, and there are some other elements to be examined.

2/ A view was expressed that the request should be channelled through a Fact-finding Panel.

3/ It has been pointed out that there is a need to discuss ways and means to prevent misuse of such requests.

4/ Possible specification of the site in two steps to be further discussed.

3. The mandate of the team of inspectors for the conduct of the inspection is the request put into operational terms, and must conform with the request. The team shall conduct the requested on-site inspection with the purpose of establishing relevant facts. The inspection team shall have the access to the site it deems necessary for the conduct of the inspection. It shall conduct the inspection in the least intrusive manner consistent with the effective and timely accomplishment of their task. The time-frame within which the team shall arrive at the site, secure it the way it deems necessary, have access to it and perform and conclude the inspection, and the relevant procedures, as well as the relationship of the representative of the requesting State to the inspection team and to the requested State are specified in (the Annex to this Article and in) the Protocol on Inspection Procedures.

4. The requested State shall be under the obligation to admit the inspection team and the representative of the requesting State into the country, to assist the team throughout the inspection and to facilitate the task of the inspection team. In keeping with its right and obligation, the requested State may propose to the inspection team ways and means for the actual conduct of the inspection and also the protection of sensitive equipment or information not related to the Convention. The inspection team shall consider the proposals made to the extent it deems them adequate for the conduct of its mission. 1/

5. In the exceptional case that the requested State proposes arrangements to demonstrate compliance, alternative to a full and comprehensive access, it shall inform the inspection team and make every effort, through consultations with the requesting State / and the inspection team 2/ / to reach agreement on the modalities for establishing the facts and thereby clarify the doubts. If no agreement is reached within 24 hours,

- the inspection shall be carried out in accordance with the request,
- or the inspection team shall carry out the inspection in accordance with the inspection mandate as it deems necessary;
- or the inspection team shall take the decision;
- or the inspection team shall carry out the inspection in accordance with the guidelines set by the Director-General of the Technical Secretariat. 1/

6. The Director-General of the Technical Secretariat shall promptly transmit the report of the inspection team, which shall be factual (and contain, if necessary, individual observations of inspectors), to the requesting State, to

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1/ The concepts of alternative measures and managed access need further clarification.

2/ Further consideration is necessary on whether it is the requesting State Party or the inspection team or both which would agree on alternatives to access.

the requested State, to the Executive Council and to all other States Parties. 1/ He shall further transmit promptly to the Executive Council the assessment 2/ of the requesting State, the views of the requested State and the views of other States Parties which may be conveyed to him for that purpose, and then provide them to all States Parties. 3/ When requested by any State Party, 4/ the Executive Council shall meet within 48 hours to review the situation and consider any appropriate further action necessary 5/ to redress the situation and ensure that the Convention is being complied with, including specific proposals to the Conference of the States Parties. 6/ The Executive Council shall inform the States Parties of the outcome of its meeting. 7/

1/ Further consideration is needed as to the nature of the report and as to how much of its contents is to be provided to all States Parties in view of the sensitivity of information possibly contained therein.

2/ A view was expressed that the term "assessment" is too vague.

3/ Further discussion is needed with regard to the decision-making process and actions of States Parties and organizational bodies following a challenge inspection.

4/ A view was expressed that the meeting of the Executive Council should be automatic.

5/ A view was expressed that, with regard to follow-on actions of the Executive Council, it should not take a vote on the inspection report nor on whether a party is complying with the Convention. In this regard, the question of what further action the Executive Council might recommend, including possible sanctions after any on-site inspection, needs further consideration and discussion.

6/ A view was expressed that in view of Article VIII procedures, this sentence is not necessary nor appropriate here. Placing it here seems to limit the many possible courses of action available to States Parties, the Executive Council and Conference of States Parties after a challenge inspection.

7/ The view was expressed that further consideration is needed as to the extent to which the process after the submission of the inspection report should be spelt out in Article IX.

Article X: Assistance and Protection against Chemical Weapons

1. For the purposes of this Article, protection against chemical weapons, which contributes to the undiminished security of States Parties, covers inter alia, the following areas: detection equipment and alarm systems, protective equipment, decontamination equipment and decontaminants, medical antidotes and treatments and advice on any of these protective measures. [Assistance means the co-ordination and delivery of such protection to States Parties.]

2. Nothing in this Convention shall be interpreted as impeding the right of any State Party to the Convention to conduct research into, develop, produce, acquire, transfer or use means of protection against chemical weapons, for purposes not prohibited by the Convention.

3. [All States Parties to the Convention undertake to facilitate, and shall have the right to participate in, the fullest possible] [Nothing in this Convention shall be interpreted as impeding the right of States Parties to] exchange [of] equipment, material and scientific and technological information concerning means of protection against chemical weapons.

4. The Technical Secretariat shall establish and maintain, for the use of any requesting State Party, a data bank containing freely available information concerning various means of protection against chemical weapons as well as such information as may be provided by States Parties.

The Technical Secretariat shall also, within the resources available to it, and at the request of a State Party, provide experts for advice and assist it in identifying how its programmes for the development and improvement of a protective capacity against chemical weapons could be implemented.

5. [Each State Party has the right to request and shall receive assistance and protection against use or threat of use of chemical weapons, (hereinafter referred to as "assistance") from the Organization and States Parties] [Each State Party has the right to request from other States Parties protection against chemical weapons, and from the Organization, assistance in this regard] if it considers that

(i) chemical weapons have been used against it;

(ii) it faces actions or activities by any State which are prohibited for States Parties to this Convention. 1/

1/ It is understood that if a State Party considers that it faces actions or activities by another State Party which might be otherwise incompatible with the purposes and objectives of the Convention, it has the right to request clarification in accordance with paragraphs 3-7 of Article IX.

6. [Each State Party undertakes to provide or support assistance] [as it may deem appropriate]. [For this purpose it may elect:

(i) to contribute to the voluntary fund for assistance;

(ii) to conclude, if possible within six months after the entry into force of the Convention, agreements with the Organization concerning the procurement, upon demand, of medical aid, medical treatment, protection equipment, services and technical advice;

(iii) to declare within six months after the entry into force of the Convention the kind of assistance and protection it might provide in response to an appeal by the Organization.

The Organization shall [be empowered to] establish a voluntary fund, conclude agreements and receive declarations to implement the provisions set forth in this paragraph.]

7. The Organization shall [provide] [process a request for] assistance in accordance with the following provisions:

(a) the request shall be addressed to the Director-General of the Technical Secretariat and shall be accompanied by relevant [reliable and] specific information [on the nature of the circumstances];

(b) the Director-General of the Technical Secretariat shall:

(i) immediately inform the Executive Council, all States Parties [and the United Nations Security Council] about the request;

(ii) initiate within [24] hours an investigation 1/2/3/ in order to provide the foundation for [any] action by [the Organization] [or States Parties]. The investigation shall, as appropriate and in conformity with the request and the information accompanying it, establish facts related to the request as well as to the types and scope of assistance [and protection] necessary.

1/ The relationship between this investigation and any concurrent Article IX investigation by the Organization need further consideration and discussion.

2/ A view was expressed that the relationship with, and co-ordination between, this investigation and investigative activities of other international organizations, e.g. United Nations and The Red Cross, need further consideration and discussion.

3/ The ability of the Organization to investigate actions involving a non-State Party needs further consideration.

The investigation shall be carried out in accordance with the procedures ... (to be developed). 1/2/

(c) In case the information available from the ongoing investigation and other reliable sources would give sufficient proof that there are victims of use of chemical weapons and immediate action is indispensable, the Director-General of the Technical Secretariat shall provide such information to the Executive Council and all States Parties and [initiate] [initiate contacts and co-ordinate] emergency measures of assistance [in close consultation with the Executive Council] [with the prior consent of the Executive Council]. 3/

(d) After submission of the investigation report [and if requested by a State Party], the Executive Council shall meet within [24] hours to consider it [and shall take action not later than eight hours following the start of the consideration]. [On the basis of the report] [Following this consideration], the Executive Council shall [decide on the provision of assistance in conformity with paragraph 6] [decide on the utilization of resources available in conformity with paragraph 6] [and] [make recommendations to States Parties on the provision of assistance].

[The decision of the Executive Council shall be taken by a simple majority]. The report of the investigation and [the decision taken by] [any recommendation of] the Executive Council shall be communicated to all States Parties.

(e) The Director-General of the Technical Secretariat shall [implement the decision of the Executive Council] in close co-operation with the requesting State Party, other States Parties and relevant international agencies [and] [co-ordinate the collection and distribution of assistance].

1/ In elaborating the procedures, appropriate elements of the inspection procedures under Article IX, including the time frames set forth therein, as well as the experience gained through investigations by the Secretary-General of the United Nations concerning the possible use of chemical weapons, shall be taken into account.

2/ The need for quick and timely reporting, including interim reporting if necessary, as well as for speedy conclusion of the investigation has to be further elaborated.

3/ In order to make emergency measures more effective, it has been proposed that sets of material be prepared and put as first-aid kit at the disposal of the Director-General of the Technical Secretariat.

Article XI: Economic and technological development 1/

1. The provisions of this Convention shall be implemented in a manner designed, in so far as possible, to avoid hampering the economic or technological development of Parties to the Convention and international co-operation in the field of peaceful chemical activities including the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for peaceful purposes in accordance with the provisions of the Convention.

2. The States Parties to this Convention, subject to its provisions, shall:

(a) have the right, individually or collectively, to conduct research with, to develop, produce, acquire, retain, transfer and use chemicals;

(b) undertake to facilitate, and have the right to participate in, the fullest possible exchange of chemicals, equipment and scientific and technical information relating to the development and application of chemistry for purposes not prohibited by this Convention;

(c) not impose any restrictions [on a discriminatory basis] which would impede development and promotion of scientific and technological knowledge in the field of chemistry.

This provision shall be without prejudice to the generally recognized principles and applicable rules of international law concerning peaceful chemical activities [including those concerning any proprietary rights and environmental or health protection].

1/ Some delegations expressed the view that this Article required further consideration. In particular, in their view, there exists no common understanding as to the definition of key terms in the wording proposed for this Article, and therefore no clear picture of the extent of the obligations to be undertaken by States Parties.

Article XII: Relation to other international agreements 1/

1. Nothing in this Convention shall be interpreted as in any way limiting or detracting from the [obligations] [rights and obligations] assumed by any State under the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, and under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed at London, Moscow and Washington on 10 April 1972.

Each Party to this Convention that is also Party to the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, affirms that the obligation set forth in paragraph 3 of Article I supplements its obligations under the Protocol.

or/and

2. This Convention shall not affect the rights and obligations of States Parties which arise from other agreements compatible with this Convention.

- or alternatively -

None of the provisions of this Convention shall suspend or modify the commitments undertaken by States Parties pursuant to other international instruments related to this Convention.

1/ Several delegations expressed the view that this article was not needed.

Article XIII: Amendments

1. Any State Party may, in accordance with the agreed procedures, propose amendments to any provision of this Convention.

2. [No amendments may be made to [any provision] [Provisions ...] during the 10-year destruction period provided for under Articles IV and V. However, if deemed necessary during this period, a Conference of the States Parties may unanimously adopt amendments to these Articles. These amendments shall enter into force only after ratification instruments of all States Parties present and voting at the Conference of the States Parties have been deposited.]

3. Any amendment to the present Convention shall be adopted by a majority of [3/4] [4/5] [9/10] of States Parties [present and voting], without prejudice to paragraph 2, enter into force [for all States Parties] [for States ratifying or acceding to them] upon the deposit of the instruments of ratification by the same majority [including all original States Parties to the Convention].

[Amendments shall enter into force for Parties ratifying or acceding to them on the thirtieth day following the deposit of instruments of ratification or accession by a majority of the Parties to the Convention and thereafter for each remaining Party on the thirtieth day following the deposit of its instrument of ratification or accession.]

4. (a) The text of any proposed amendment shall be communicated to the Depositary not less than 60 days prior to a session of the Conference of the States Parties and shall be promptly communicated by him to all States Parties. [The State Party proposing an amendment may also communicate it simultaneously to the Director-General of the Technical Secretariat and the Executive Council.]

(b) Proposed amendments shall be taken up at the next session of the Conference of the States Parties. However, if deemed necessary, the Conference of the States Parties may, by a majority of two-thirds of States Parties present and voting, convene a special session to discuss and take a decision on proposed amendments. 1/

5. The provisions of this Article shall be without prejudice to the special modification procedures provided for in Annexes 2/

1/ A view was expressed that it is to be discussed whether sessions of the Conference of the States Parties or Review Conferences are appropriate forums in which to consider amendments to the Convention.

2/ A view was expressed that a differentiated amendment mechanism is required to meet the special needs of various provisions of the Convention. It is understood that this Article might be limited to general amendment procedures which would be applied unless otherwise provided in relevant parts of the Convention. It is to be further discussed which provisions should be subject to strict amendment procedure and which might be amended in a simplified way.

Settlement of disputes

The question of the settlement of disputes was further discussed in Working Group 2 in 1989.

Reservations */

1. No reservations or exceptions, however phrased or named, [including interpretative statements or declarations], may be made to this Convention [unless expressly permitted by other provisions of the Convention].

2. The provision in paragraph 1 above does not preclude a State when signing, ratifying or acceding to this Convention, from making statements or declarations, however phrased or named, provided that such statements or declarations do not purport to exclude or to modify the legal effect of the provisions of this Convention in their application to that State.

- or alternatively -

This Convention shall not be subject to reservations.

Status of Annexes

The subject needs further discussion.

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*/ The view was expressed that the concerns of a State Party should be dealt with during the negotiations of the Convention so that reservations will not be necessary. Thus, the reservations issue should be dealt with at a further stage in the negotiations.

SANCTIONS

The question of sanctions was considered by the Working Group on Legal and Political Questions during four meetings. Document CW/Group 2/16 was presented to the Working Group on 7 July 1989. On the basis of that document, some 40 interventions were made during the discussion on sanctions, from which the following emerged:

- A number of delegations were of the view that the Chemical Weapons Convention should contain a provision on sanctions. It was also understood that the Organization, through one of its organs, should take action in order to redress and repair any situation which would be in contradiction with the provisions of the Convention. 1/

- It was argued by several delegations that not all violations would fall into the same category. They suggested that there might be a distinction between serious violations and minor or technical ones. 2/

- In connection with this classification, some delegations were of the view that automatic measures may be laid down in the Convention to cover cases of minor violations.

- It was also agreed by all delegations that the existence of a provision on sanctions within the Convention or the failure to implement it should not affect the rights of States Parties to carry out unilateral actions amounting to sanctions as long as they are kept within the bounds of International Law.

- It was suggested by some delegations that sanctions may imply the withdrawal or restriction of rights and privileges from States Parties. In this respect, certain rights and privileges were mentioned such as: the right to membership in organs of the Organization; the right to Challenge Inspections, the right to have nationals as inspectors. However, it was understood by delegations that in no way should the withdrawal of rights and privileges amount to the withdrawal of the right of membership in the Organization.

- The question of what type of sanctions in addition to withdrawal or restriction of rights and privileges may be suggested has yet to be considered.

1/ The view was expressed that divergent views remain on the feasibilit of sanctions and the effectiveness of their deterrence of non-compliance.

2/ A view was expressed that the nature of a violation depends upon the context of the situation and, depending on the context, a technical violation may be a serious one.

- Some delegations held that the nature of sanctions (mandatory or voluntary) should depend on the nature of each specific case. It was suggested that a differentiation between violations of technical matters and the violation of other provisions may be useful, where, according to many delegations, mandatory sanctions should be carried out with regard to the latter category.

- There was a degree of uncertainty concerning the modalities by which to establish the occurrence of a breach or violation. One view supported the idea that the Organization should establish the existence of a violation on the basis of information arising from the verification activities which it conducts. A second view was that it is very difficult to entrust the Organization with the role of a Tribunal in establishing breaches or violations; however there could be a distinction between violations of technical matters, where establishing the facts will be automatic and self-evident, and the violations of other provisions. A third view was that sanctions should not depend on the formal establishment of a breach or violation; they should rather be used to enforce demands of the Organization vis-à-vis States Parties to bring their activities in line with their obligations under the Convention.

- The view was expressed that the Organization itself, through the Conference of States Parties or the Executive Council, should decide on sanctions according to a machinery which is yet to be considered.

- There is a common understanding that the efforts to incorporate into the Convention a provision on sanctions should not in any way aim at creating a mechanism parallel to that of the Security Council, nor should they undermine its prerogative to address any major breach of the Convention which is likely to endanger the maintenance of international peace and security or to constitute a threat to or breach of the peace and to impose appropriate sanctions under chapter VII of the United Nations Charter. However, a view was expressed that in many cases the Security Council was unable to perform its duties, and that, in the case of the Organization of Chemical Weapons Convention, such a situation would be fatal.

- Although the issue of how a provision on sanctions may be incorporated in the Convention has not yet been settled, a preference was expressed for a separate article, while some delegations find it more appropriate to combine it with other articles.

- There was no agreement on whether to impose sanctions on non-parties or not. A view was expressed that the universality of the Convention does not only mean membership of a great number of States Parties to the Convention but also erga omnes adherence to the principle objectives of the Convention due to its sui generis nature. Hence, there has to be a mechanism to control and sanction any such activities by non-parties which may endanger the system established by

the Convention. Another view was that non-parties should not be sanctioned for non-compliance with obligations they have not undertaken. The question of rights and duties of third parties with regard to the Convention has yet to be discussed in detail.

- It was argued that should the Organization fail to impose sanctions collectively, the Convention would suffer great damage.

- The discussion of the question of sanctions has clearly shown the highly delicate political nature of the problem, which needs to be further addressed in order to clarify more the issues involved and try to find appropriate solutions to them.

Material on the Preparation Period

Contents

I. OBJECTIVE OF WORK

1. The general objective of the work connected with the preparation period is to ensure:

(a) the entering into force of the Convention without undue delay, and to create the conditions necessary for its implementation from the very beginning;

(b) the promotion of a universal adherence to the Convention. 1/

II. MEASURES CONNECTED WITH THE NEGOTIATIONS

1. The provision of relevant data will be instrumental for the elaboration of procedures, the identification of thresholds and the assessment of costs.

States should be encouraged to participate in the exchange of such information. Further discussion to increase the compatibility of such information might be necessary. The outline for the provision of data to the Preparatory Commission, as contained in attachment 2, could be used as starting point for such a discussion.

2. The transmission of material not being part of the text of the Convention to the Preparatory Commission has to be arranged for in advance.

A register should be established by the Secretariat of the Ad hoc Committee, which will include documents relevant to the further preparation of the implementation of the Convention. An example for the possible structure of such a register is comprised in attachment 3.

III. INFORMATION AND CO-OPERATION REQUIREMENTS FOR SIGNATORIES PRIOR TO THE ENTRY INTO FORCE OF THE CONVENTION

The work to be accomplished by the Preparatory Commission will be complex and manifold. The correct functioning of the implementation mechanism of the Convention will depend to a large extent on the results which this body will achieve in the course of its activities. The contributions of signatories to the Convention will be instrumental to this end. 2/

1/ Further consideration of specific activities on this subject will be necessary.

2/ See the attachment 1 on preparation activities.

The following requirements will have to be met:

1. Information on the progress of the ratification process

2. Information on

CW stockpile facilities

CW production facilities

CW destruction facilities

Production of chemicals included in Schedules 1, 2, 3 1/

National Authorities

3. Co-operation in the following fields:

acquisition and testing of instruments and devices for monitoring and inspection activities;

designation of instruments for routine and challenge inspection;

designation and installation of off-site laboratories and elaboration of respective procedures;

preparation for the designation of inspectors;

training of inspectors for verification activities (routine and challenge inspection);

prenegotiation of facility agreements related to facilities to be inspected under Articles IV, V and VI;

preparation for designation of points of entry.

4. In order to ensure that these requirements will be met in the appropriate time-frames, concrete arrangements might be necessary. 2/

1/ An outline for the provision of such data is attached to this paper.

2/ The legal status of the Preparatory Commission and the obligations of States Signatories thereto needs further consideration.

ATTACHMENT 1

Overview of some activities of the Organization to be carried out after entry into force of the Convention, the ensuing preparatory work to be accomplished prior to this date and the information and co-operation requirements arising for signatories

Provision	Activity of the Organization	Time to start after entry into force	Preparatory work	Information and co-operation requirements
III, IV, V	Declarations to receive, compile and distribute to States Parties i.e. general and detailed declarations on CW stocks, CW production facilities, general and detailed plans for CW destruction and destruction/ conversion of production facilities	30 days 6 months or 9 months	Establishment of administrative framework for declaration and data as well as preparation for the study, compilation and dissemination of data and declaration to States Parties and other units of the Secretariat	Information on the progress in the process of ratification to enable planning for the date when the Convention enters into force
VI	Declarations on activities not prohibited by the Convention (relevant chemicals and facilities which produce, process or consume them)	30 days resp. annually		
IV (3)	Verification of declaration on CW at the location of each stockpile	Immediately after 30 days	Recruitment and training of (...) inspectors & supporting staff	Information on CW stocks, their size and number of locations
IV (3)	Verification of non-removal of CW-stockpiles (continuous presence of inspectors and monitoring with instruments)	30 days/ continuously	Development and procurement of monitoring instruments and devices for the inventory control procedure	Acquiring and testing of monitoring instruments and devices

ATTACHMENT 1 (continued)

IV (6)	Verification of destruction (continuous presence of inspectors and monitoring with instruments during active destruction phase)	After 1 year or earlier until the end of destruction	Recruitment and training of (...) inspectors & supporting staff, development and procurement of instruments	Number of destruction facilities. Approximate time of operation, operation schedules, acquiring and testing of instruments and devices
V (5)	Verification of declarations of CW production facilities	Immediately after 30 days	Recruitment and training of (...) inspectors & supporting staff	Information on CW production facilities, their number and location
V (6)	Inspection and continuous monitoring of closure of CW production facilities (periodic & on-site instruments)	3 months until destruction	See above & development and procurement of instruments	See above & acquiring and testing of instruments
V (8)	International verification of destruction of CW production facilities	Not later than 12 months until the end of destruction	Recruitment and training of (...) inspectors & supporting staff	Support in training activities
V (9)	International verification of temporary conversion of a CW production facility into a CW destruction facility	See above	See above	Information about intention of conversion
VI Annex VI (1) II, 4	Initial visits to SSPFs and "other facilities"	Immediately after 30 days	Recruitment and training of (...) inspectors & supporting staff	Information on SSPFs and "other facilities" in operation upon entry into force
	Systematic on-site verification of SSPFs and "other facilities" through on-site inspection and monitoring with instruments	Immediately after 30 days	See above & development and procurement of instruments	See above & acquiring and testing of instruments

ATTACHMENT 1 (continued)

VI Annex VI (2), 9 Annex VI (2), 5	Initial visits Systematic on-site verification on routine basis	Immediately after 30 days	Recruitment & training of (...) inspectors & supporting staff development and procurement of instruments	Information on facilities producing, processing or consuming chemicals listed in Schedule (2), acquiring and testing of instruments
IV Annex IV, II, 3 IV Annex IV, V, 5	Conclude agreements concerning storage facilities Conclude agreements concerning on-site verification of CW destruction facilities resp. combined plans for destruction and verification	Within (6) months Earlier than 12 months	Establishment of administrative framework for agreements and negotiations, further refinement of models for agreements, prenegotiation of such agreements with States Parties which will be needed during the first year	Prenegotiation of agreements on facilities under Articles IV, V, VI respectively with the Preparatory Commission
V Annex V, V, 2	Conclude agreements concerning on-site verification of declarations and systematic monitoring of closure and verification of destruction of CW production facilities	Within (6) months	See above	See above
VI Annex VI (1), II, 5	Conclude agreements concerning on-site verification of SSPFs and "other facilities"	Immediately after 30 days	Further elaboration of the model for an agreement, prenegotiation of agreements with signatories	Prenegotiation of agreements with the Preparatory Commission

ATTACHMENT 1 (continued)

VI Annex VI (2), 11	Conclude agreements concerning on-site verification of facilities producing etc. chemicals listed in Schedule (2)	(6) months	Prenegotiation of agreements with signatories	Prenegotiation of agreements with the Preparatory Commission
IV Annex IV, II, 7 and V, 7 VI (2) 14	Samples analysis in off-site laboratories designated by the Organization	Immediately after 30 days	Setting up a scheme of standardized equipment for off-site laboratories, designation of off-site laboratories and procedures for transport and handling of samples	Co-operation in the designation of off-site laboratories, installation of such laboratories pursuant to the schemes of the Preparatory Commission
Guidelines on the International Inspectorate (routine and challenge)	Designation of inspectors and inspection personnel	Immediately	Indication to signatories which inspectors are chosen for designation	Indication to the Preparatory Commission whether the inspectors might be acceptable
	Agreement on points of entry	Immediately	Preliminary agreement	Preliminary agreement
IX, 2	Carrying out of challenge inspections	Immediately	Training of inspectors for challenge inspections	Support in training activities
IX, 2	Designation of instruments for purposes of challenge inspection	Immediately	Development, procurement, testing, preliminary designation	Acquiring and testing of instruments
VII	Communicate with National Authorities	Immediately	Preparation of a list of names, addresses, communication lines	Providing data on National Authorities

ATTACHMENT 2

Nature of data to be submitted

Such data would include, inter alia:

1. Information on CW stockpile facilities

   - number of facilities
   - size of each facility (agent tons, square km)
   - aggregate amount (agent tons)

2. Information on CW production facilities

   - number of facilities
   - preliminary plans for their destruction

3. Information on CW destruction facilities

   - number of facilities
   - preliminary plans for the destruction of CWs
   - (time-frames for the first active destruction phase)

4. Production of Schedule-1-chemicals

4.1 Information on SSF

   - location of the facility

4.2 Information on "other facilities" producing above 100 g

   - number of facilities
   - location of the facilities

5. Production etc. of Schedule-2-chemicals

   - number of facilities
   - location of the facilities
   - names of chemicals produced etc. at each facility
   - production etc. amount per annum at each facility (in ranges) 1/

6. Production etc. of Schedule-3-chemicals

   - number of facilities
   - location of the facilities
   - names of chemicals produced etc. at each facility
   - production etc. amount per annum at each facility (in ranges) 1/

7. Others

1/ Dependent on the thresholds finally agreed upon in the text of the Convention.

ATTACHMENT 3

Possible structure of a register for material of relevance for the further preparation and eventual implementation of the Convention

(A) Documents tentatively agreed upon, but not forming part of the draft (possible example: model for agreements on facilities).

(B) Recorded understandings related to the work of the Preparatory Commission and/or the Organization.

(C) Problems on which further work is required after the negotiations have been terminated.

(D) Information on intentions of Governments concerning voluntary contributions for the Preparatory Commission, the Organization and States to assist in the preparation of the implementation of the Convention.

(E) Studies, data-base, technical expertise related to the activities of the Organization in the implementation process (example: experience on trial inspections, data provided).

(F) Other documents.

CONFERENCE ON DISARMAMENT

CD/966
CD/CW/WP.275
14 February 1990

ENGLISH
Original: RUSSIAN

UNION OF SOVIET SOCIALIST REPUBLICS

Trial challenge inspection at a military facility

Issues related to verification of compliance with the provisions of the chemical weapons convention by the States parties to it are under active discussion in the Conference on Disarmament's Ad hoc Committee on Chemical Weapons.

In 1988 and 1989 national trial inspections to test procedures for verification of the non-production of chemical weapons in civil industry were conducted in a number of the States which are involved in the negotiations, and reports on those inspections were submitted to the Conference on Disarmament.

The results of such inspections facilitate more detailed work on systematic monitoring of facilities to be declared under article VI of the draft convention and its annexes, and the securing of agreement thereon.

The Soviet Union also views the holding of national trial inspections as a form of practical preparation on the part of States for their role as parties to the future chemical weapons convention.

With a view to the finalization and acceptance of procedures for conducting challenge inspections under article IX of the draft convention, it was considered useful to conduct national trial inspections at facilities which may be subject to such forms of verification subsequently, when the convention has entered into force.

Information on a trial challenge inspection conducted in the USSR is furnished below.

When selecting a facility for the holding of the trial inspection, the Soviet side bore in mind that under the future convention a challenge inspection may be conducted at any site or facility in a State party, with the challenged State having no right of refusal.

It is felt that the most typical grounds for challenge may be doubt on the part of States parties to the convention based on the suspected covert storage or production of chemical weapons by another State party.

Against this background, the facility selected for the trial inspection was an ordnance depot, at which chemical weapons are not and have never been stored.

The purpose of the inspection was to determine whether or not chemical weapons were present at the military depot.

Description of the facility:

Area - about 3 sq. km.

Perimeter - about 7 km.

Number of buildings and structures - about 100.

Storage capacity - more than 1,000 railway wagons.

Nature of terrain - rugged, wooded.

The trial inspection was conducted between 15 and 20 May 1989. The size of the inspection team, including observers, was 20 persons. They included armaments experts, specialists in CW detection and experts from the Soviet delegation to the Conference on Disarmament. The team owed its relatively large size to the fact that it dealt itself with all the organizational problems connected with the preparations for and the conduct of the inspection.

Programme of the trial inspection

As this was a national exercise, and since it was a first attempt at conducting a challenge inspection, the facility management was notified in advance of the objectives of the inspection team and the timing of its visit.

However, no actions were accomplished at the facility in direct reaction to the team's visit.

On the inspection team's arrival at the facility, the management held a meeting with the team members. The meeting lasted one hour.

During the meeting the leader of the inspection team informed the facility management of the purposes of the team's visit and its tasks.

The facility director informed the inspection team of the basic features of the facility, described its layout and indicated what in his view were the most sensitive areas which, he felt, could have no connection with storage of chemical weapons.

The leader of the inspection team requested the facility director to arrange for the team members to have unimpeded access to all points within the facility site, to inspect means of transport entering and leaving the facility and to take samples at places indicated by the inspectors.

The members of the inspection team were given 15 minutes' instruction in accident prevention at the facility. The members of the inspection team signed a register indicating that they had received such instruction.

By decision of the leader of the inspection team, it was divided into the following subgroups:

A subgroup to study documentation. Task: to verify the presence or absence of CW-related correspondence;

A subgroup to inspect the facility buildings and structures. Task: to visit storage areas and investigate the presence or absence of chemical weapons;

A subgroup to monitor means of transport entering and leaving the grounds of the facility. Task: to inspect means of transport and observe the facility perimeter;

A subgroup to work with the facility staff. Task: to interview facility staff on issues directly connected with the aims of the inspection.

A representative of the facility management attached to each subgroup accompanied the inspectors and assisted in the performance of their duties.

During the inspection the inspection team did not address direct instructions to the facility staff or request them to perform operations or actions they considered necessary for the conduct of the inspection. All such requests were addressed to the representatives of the facility management accompanying the inspection team.

During the inspection the inspection team endeavoured to refrain from gathering and keeping information unrelated to chemical weapons. Nevertheless, a large amount of such information concerning the dump came to the notice of the inspectors.

The inspection team visited and examined at close hand 10 per cent of the installations located within the depot. All the types of buildings and structures on the site were visited on a selective basis at the discretion of the inspection team.

The places visited by the inspectors were identified on the basis of indirect factors which, in the opinion of the inspection team, might indicate the presence of chemical weapons. These included the presence of air purification sytems in storage areas; the presence of protective gear and decontamination equipment in or immediately next to storage areas; the presence of specially protected sectors on the facility site, equipped with indication and warning systems; the absence of data on the operations of individual storage areas or other subdivisions of the facility within the overall system of documentation, or separate correspondence for individual subdivisions of the facility; the presence of storage areas from which items had been removed immediately prior to the arrival of the inspection team, according to information obtained from examination of the documentation and interviews with the facility staff.

The inspection team began its verification work with the least intrusive verification methods. However, as the facility management did not propose alternative measures which the inspection team found sufficiently persuasive and which would have made it unnecessary to visit the most sensitive areas of the facility, the team was obliged to acquaint itself with a specially circumscribed sector on the facility site. Moreover, the record-keeping methods used in the facility made it impossible to draw a clear line between information which the inspectors would have been justified in studying in view of the purposes of the inspection, and information which could have no connection whatsoever with chemical weapons.

On visits to the storage areas the inspectors visually examined specimens of the armaments and munitions kept there, compared the markings on the containers and on the specimens in them, verified their compliance and examined the external appearance of the stored munitions. Air samples were taken in the storage areas by the facility management at the request of the inspectors and in their presence.

Radio links were used for communications between the subgroups and the leader of the inspection team. For this purpose the facility management allocated one radio set for each subgroup and one for the leader of the inspection team.

During the inspection the inspection team interviewed the facility staff in the presence of the representative of the facility management who was accompanying them. In the course of the interviews the representative of the management rejected those questions which in his opinion went beyond the purposes of the inspection or the duties of the inspectors. In cases where the inspectors considered that a rejected question was indeed relevant to the conduct of the inspection, the situation was resolved between the leader of the inspection team and the facility director.

As a result of the trial inspection the inspection team established that there were no chemical weapons at the inspected facility. It should be pointed out, however, that such an unequivocal result was possible because the members of the inspection team who participated in the national inspection were conversant with the designations of types of Soviet chemical weapons, so that it was possible to dispense with the need to open the munitions in order to determine the type of charge used.

The inspection team considers that two factors should be borne in mind when conducting a challenge inspection at a military facility in order to clarify situations involving the suspected covert storage of chemical weapons.

First, a search should be made for specimens of chemical weapons on which information has been supplied in the declarations made by States parties within 30 days after the convention enters into force. In this way the task of the inspection team will be substantially simplified, since the main thrust of the inspection will be reduced to determining the presence or absence of specimens whose basic parameters are known.

Second, a search for undeclared specimens of chemical weapons may be conducted. In this case the task of the inspection team may be put differently: it will be to verify the presence or absence of undeclared forms or types of chemical weapons.

To perform the second task it is necessary to open specimens of munitions, devices and containers in order to verify the absence of a charge characteristic of a chemical weapon - or, to lessen the degree of intrusiveness in verification, to develop methods and techniques of verification not using contact methods whereby it can be determined unambiguously, without opening the casing, that a given specimen is not a chemical weapon.

The results of the inspection also demonstrate that the international inspectorate must undertake to safeguard confidential information which becomes known to the inspectors in the course of their duties in applying the convention and which is not connected with chemical weapons.

In order to reduce the level of disclosure of sensitive information which is not CW-related, the management of a facility being inspected must be able, during the inspection, to propose alternative measures as a substitute for access by the inspectors to particularly confidential information. However, the test of acceptability of such alternative measures must in every case be that they are satisfactory to the inspection team.

The results of the inspection demonstrate that where no breaches are identified during the verification process, the inspection report should contain a minimum of information and should not reveal the nature of the activities conducted in the facility.

In the view of the inspection team, inspections to clarify situations involving the suspected covert storage of chemical weapons are likely to be among the most complicated and labour-intensive types of challenge inspection.

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CONFERENCE ON DISARMAMENT

CD/968
15 February 1990

Original: ENGLISH

Decision on the Re-establishment of the Ad Hoc Committee on Chemical Weapons

(Adopted at the 535th plenary meeting on 15 February 1990)

The Conference on Disarmament, keeping in mind that the negotiation of a Convention should proceed with a view to its final elaboration at the earliest date, in accordance with United Nations General Assembly resolutions 44/115 A and B, and in discharging its responsibility to conduct as a priority task the negotiations on a multilateral convention on the complete and effective prohibition of the development, production and stockpiling of chemical weapons and on their destruction, and to ensure the preparation of the convention, decides to re-establish, in accordance with its rules of procedure, for the duration of its 1990 session, the Ad Hoc Committee to continue the full and complete process of negotiations, developing and working out the convention, taking into account all existing proposals and drafts as well as future initiatives with a view to giving the Conference a possibility to achieve an agreement as soon as possible. This agreement, if possible, or a report on the progress of the negotiations, should be recorded in the report which this Ad Hoc Committee will submit to the Conference at the end of the second part of its 1990 session.

GE.90-60180/5333A

CONFERENCE ON DISARMAMENT

CD/969
CD/CW/WP.277
19 February 1990

Original: ENGLISH

HUNGARY

Provision of data relevant to the Chemical Weapons Convention

With the view of contributing to the negotiations on the Chemical Weapons Convention the Hungarian Foreign Minister put forward an initiative at the forty-fourth session of the United Nations General Assembly declaring that Hungary was ready to comply with all the provisions of the convention under drafting and to act in full conformity with it at this stage already. This meant the reaffirmation of the chemical-weapons-free status of the country, the obligation to make regular declarations on the production, export and import of chemicals, the readiness to accept verification - including on-site inspection - on a reciprocal basis, regarding all declared facts and figures as well as our military industrial and trading activities relating to the scope of the convention, and finally the intention to set up an appropriate body to perform provisionally some of the duties of the national authority to be established under the convention. In accordance with the contents of the initiative Hungary wishes to present the following declaration on the production, consumption, as well as the export and import of chemicals relevant to the convention.

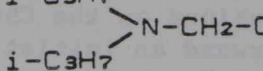
The declaration was prepared in conformity with the draft provisions of the convention. The data contained in the declaration are based on the co-operative and voluntary contribution of chemical plants and enterprises.

Quantities exceeding one ton and thirty tons for Schedule 2 and Schecule 3 chemicals respectively are contained in the declaration. The declared quantities appear within a range which is a possible alternative envisaged in the draft provisions. The limits mentioned above together with the general methodology adopted for the purposes of the present declaration are not intended to prejudice in any way the final agreed provisions of the relevant section of the draft convention.

SCHEDULE 2

AGGREGATE NATIONAL DATA
on the production, processing, consumption, export and import of
Schedule 2 chemicals
in 1989

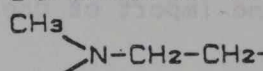
1./ 1.Chemical name:N,N-diisopropile aminoethyl-2-chloride.HCl
name used by the facility: DAE.HCl
structural formula:



CASRN: (4261-68-1)

2.The total amount
produced: 5-10 t
consumed: 1-5 t
imported: 0
exported: 1-5 t to Finland

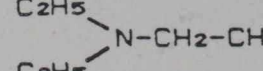
2./ 1.Chemical name:N,N-dimethylamino-ethane-2-ol
name used by the facility:dimetilamino-etanol
structural formula:



CASRN: (108-01-0)

2.The total amount
produced: 0
consumed: 5-10 t
imported: 5-10 t from Federal Republic of Germany
exported 0

3./ 1.Chemical name:N,N-diethyl aminoethyl-2-chloride.HCl
name used by the facility:dietilamino-etilklorid
structural formula:



CASRN: (869-24-9)

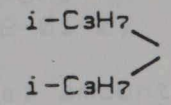
2.The total amount:
produced: 0
consumed: 10-20 t
imported: 10-20 t from United Kingdom
exported 0

DECLARATION AND ADVANCE NOTIFICATION OF NATIONAL DATA
on the production, processing, consumption, export and import

DECLARATION

I. CHEMICAL

1. Chemical name:N,N-diisopropile aminoethyl-2-chloride.HCl
name used by the facility:DAE.HCl
structural formula:



CASRN: (4261-68-1)

2. The total amount
produced: 5-10 t
consumed: 1-5 t
imported: 0
exported: 1-5 t

3.The purposes for which the chemical was produced,consumed or processed: (a) conversion on site to drug intermedier
(b) export to Finland

II.FACILITY

1. The name of the facility:KÉMIA-1
name of the owner: Hungarian state
operating the facility:Kőbányai Gyógyszerárugyár

2. The exact location of the facility: 1103 Budapest 10.kerület Gyömrői ut 19-21
Kémia-1 épület B szint

3. The facility is a multipurpose facility

4. The main orientation of the facility:
intermediers

5. The facility can not be used for the production of Schedule 1 chemical

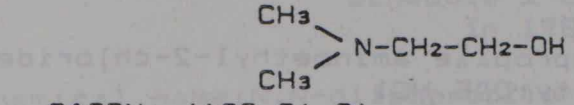
6. The production capacity for the declared compound:
10-20 t

7.The following activities are performed with regard to the declared chemical:
(a) production
(b) processing with conversion into another chemical

DECLARATION

I. CHEMICAL

1. Chemical name:N,N-dimethylamino-ethane-2-ol
   name used by the facility:dimetilamino-etanol
   structural formula:



CASRN: (108-01-0)

2. The total amount
   produced:0
   consumed:1-5 t
   imported:1-5 t
   exported:0

3. The purposes for which the chemical was produced,consumed or processed:
   conversion on-site to intermedier

II. FACILITY

1. The name of the facility:Kémia-2
   name of the owner: Hungarian state
   operating the facility: EGIS Gyógyszergyár

2. The exact location of the facility: 1106 Budapest
   10.kerület Keresztúri ut 30-38
   18.épület

3. The facility is a multipurpose facility

4. The main orientation of the facility:
   production of intermediers

5. The facility can not be used for the production of Schedule 1 chemical

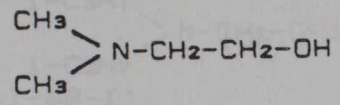
6. The production capacity for the declared compound:
   5-10 t

7. The following activities are performed with regard to the declared chemical:
   processing with conversion into another chemical

DECLARATION

I. CHEMICAL

1. Chemical name:N,N-dimethylamino-ethane-2-ol
   name used by the facility:dimetilamino-etanol
   structural formula:



CASRN: (108-01-0)

2. The total amount
   produced:0
   consumed:5-10 t
   imported:5-10 t
   exported:0

3. The purposes for which the chemical was produced,consumed or processed:
   conversion on-site to intermedier

II.FACILITY

1. The name of the facility: Biokémia-2
   name of the owner: Hungarian state
   operating the facility:Kőbányai Gyógyszerárugyár

2. The exact location of the facility: 1103 Budapest
   10.kerület Gyömrői ut 19-21
   Biokémia-2 épület Feldolgozó üzem-2

3. The facility is a multipurpose facility

4. The main orientation of the facility:
   production of intermediers

5. The facility can not be used for the production of Schedule 1 chemical

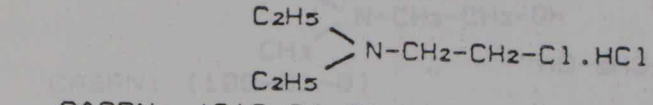
6. The production capacity for the declared compound:
   5-10 t

7. The following activities are performed with regard to the declared chemical:
   processing with conversion into another chemical

DECLARATION

I. CHEMICAL

1. Chemical name:N,N-diethyl aminoethyl-2-chloride.HCl
   name used by the facility:dietilamino-etilklorid
   structural formula:



CASRN: (869-24-9)

2. The total amount
   produced:0
   consumed:10-20 t
   imported:10-20 t
   exported:0

3. The purposes for which the chemical was produced,consumed or processed:
   conversion on-site to intermedier

II.FACILITY

1. The name of the facility:Kémia-2
   name of the owner: Hungarian state
   operating the facility: EGIS Gyógyszergyár

2. The exact location of the facility: 1106 Budapest
   10.kerület Keresztúri ut 30-38
   18.épület

3. The facility is a multipurpose facility

4. The main orientation of the facility:
   production of intermediers

5. The facility can not be used for the production of Schedule 1 chemical

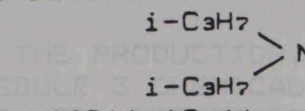
6. The production capacity for the declared compound:
   20-50 t

7. The following activities are performed with regard to the declared chemical:
   processing with conversion into another chemical

ADVANCE NOTIFICATION

I. CHEMICAL

1. Chemical name:N,N-diisopropile aminoethyl-2-chloride.HCl
   name used by the facility:DAE.HCl
   structural formula:



CASRN: (4261-68-1)

2. The total amount intended to be
   - produced:5-10 t
   - consumed:1-5 t

   in the I. quarter of 1990

3. The purposes for which the chemical will be produced and consumed: (a) conversion on site to drug intermedier
   (b) export to Finland

II. FACILITY

1. The name of the facility:KÉMIA-1
   name of the owner: Hungarian state
   operating the facility:Kőbányai Gyógyszerárugyár

2. The exact location of the facility: 1103 Budapest
   10.kerület Gyömrői ut 19-21
   Kémia-1 épület B szint

3. The facility is a multipurpose facility

4. The main orientation of the facility:
   intermediers

5. The facility can not be used for the production of Schedule 1 chemical

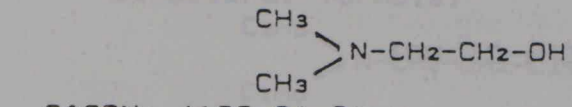
6. The production capacity for the declared compound:
   10-20 t

7. The following activities are performed with regard to the declared chemical:
   (a) production
   (b) processing with conversion into another chemical

ADVANCE NOTIFICATION

I. CHEMICAL

1. Chemical name:N,N-dimethylamino-ethane-2-ol
   name used by the facility:dimetilamino-etanol
   structural formula:



CASRN: (108-01-0)

2. The total amount inteded to be consumed:1-5 t

   in the III. quarter of 1990

3. The purposes for which the chemical will be consumed:

   conversion on-site to intermedier

II. FACILITY

1. The name of the facility:Kémia-2
   name of the owner: Hungarian state
   operating the facility: EGIS Gyógyszergyár

2. The exact location of the facility: 1106 Budapest
   10.kerület Keresztúri ut 30-38
   18.épület

3. The facility is a multipurpose facility

4. The main orientation of the facility:
   production of intermediers

5. The facility can not be used for the production of Schedule 1 chemical

6. The production capacity for the declared compound:
   5-10 t

7. The following activities are performed with regard to the declared chemical:
   processing with conversion into another chemical

SCHEDULE 3

NATIONAL DATA
ON THE PRODUCTION, CONSUMPTION, EXPORT AND IMPORT OF SCHEDULE 3 CHEMICALS AND THE FACILITIES WHICH PRODUCED CONSUMED, PROCESSED OR TRANSFERRED MORE THAN 30 TONNES IN 1989

DECLARATION

1. (a) Chemical name: carbonyl dichloride
common or trade name: phosgene
structural formula: $C(O)Cl_2$
CASRN: (75-44-5)

(b) The total amount
produced:10000-20000 t
consumed:10000-20000 t
imported: 0
exported: 0

(c) FACILITIES:

1. Name of the facility: Foszgén üzem
owner of the facility: Hungarian state
operating the facility: Borsodi Vegyi Kombinát
location: 3702 Kazincbarcika Bólyai tér 1
capacity for production: 10000-20000 t
production: 10000-20000 t

2. Name of the facility: V gyár részleg
owner of the facility: Hungarian state
operating the facility:északmagyarországi Vegyimüvek
location: 3792 Sajobábony
capacity for consumption: 10000-20000 t
consumption: 10000-20000 t

DECLARATION

2. (a) Chemical name: phosphonyl chloride
common or trade name: phosphorus oxichlorid
structural formula: $P(O)Cl_3$
CASRN: (10025-87-3)

(b) The total amount
produced: 0
consumed: 200-500 t
imported: 200-500 t
exported: 0

(c) FACILITIES:

1. Name of the facility: Növényvédőszer üzem
owner of the facility: Hungarian state
operating the facility: Alkaloida Vegyészeti Gyár
location: 4440 Tiszavasvári Kabai János u 29-31
capacity for consumption: 100-300 t
consumption: 100-300 t

2. Name of the facility: Szintetikus üzemcsoport-1
owner of the facility: Hungarian state
operating the facility: CHINOIN Gyógyszer és Vegyészeti Termékek Gyára
location: 1045 Budapest Tó u 1-5
capacity for consumption: 50-200 t
consumption: 50-200 t

DECLARATION

3. (a) Chemical name: Phosphorus trichloride
common or trade name: phosphorus trichloride
structural formula: PCl_3
CASRN: (7719-12-2)

(b) The total amount
produced: 0
consumed:5000-10000 t
imported:5000-10000 t
exported: 0

(C) FACILITIES:

1. Name of the facility: Intermedier 1.
owner of the facility: Hungarian state
operating the facility: Borsodi Vegyi Kombinát
location: 3702 Kazincbarcika Bolyai tér 1.
capacity: for consumption:300-600 t
consumption: 300-600 t

2. Name of the facility: V1 és V2 gyáregység
owner of the facility: Hungarian state
operating the facility:Északmagyarországi Vegyimüvek
location: 3792 Sajóbábony
capacity for consumption: 500-1000 t
consumption:300-600 t

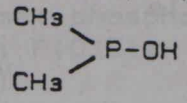
3. Name of the facility: 2. Gyáregység F üzem
owner of the facility: Hungarian state
operating the facility:Nitrokémia Ipartelepek
location: 8184 Füzfőgyártelep
capacity for consumption: 5000-8000 t
consumption: 5000-6000 t

4. Name of the facility:Szerves A és B üzemcsoport
owner of the facility: Hungarian state
operating the facility: Budapesti Vegyimüvek
location: 1097 Budapest 9.kerület Kén u 5.
capacity for consumption :100-200 t
consumption: 80-200 t

5.Name of the facility: Kémia
owner of the facility: Hungarian state
operating the facility: CAOLA Kozmetikai és Háztartásvegyipari Vállalat Budapest
location: 8900 Zalaegerszeg Sport u. 5.
capacity for consumption 100-200 t
consumption: 50-200 t

DECLARATION

4. (a) Chemical name: Dimethyl-phosphite
common or trade name: dimethyl-phosphite
structural formula:



CASRN: (868-85-9)

(b) The total amount
produced:1000-2000 t
consumed:1000-2000 t
imported: 0
exported: 0

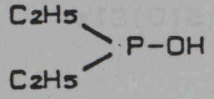
(C) FACILITIES:

1. Name of the facility: 4.Gyáregység H üzem
owner of the facility: Hungarian state
operating the facility: Nitrokémia Ipartelepek
location; 8184 Füzfőgyártelep
capacity for production: 1000-2000 t
production: 1000-2000 t

2. Name of the facility: Növényvédőszer üzem
owner of the facility: Hungarian state
operating the facility: Alkaloida Vegyészeti Gyár
location: 4440 Tiszavasvári Kabai János u 29-31
capacity for consumption: 1000-2000 t
consumption: 1000-2000 t

DECLARATION

5. (a) Chemical name: Diethyl-phosphite
common or trade name: diethyl-phosphite
structural formula:



CASRN: (762-04-9)

(b) The total amount
produced:300-500 t
consumed:300-500 t
imported: 0
exported: 0

(C) FACILITY:

1. Name of the facility: Intermedier 1.
owner of the facility: Hungarian state
operating the facility: Borsodi Vegyi Kombinát
location: 3702 Kazincbarcika Bólyai tér 1
capacity for production:500-1000 t
production:300-500 t

DECLARATION

6. (a) Chemical name: Thionyl-dichloride
common or trade name: thionyl-chloride
structural formula: $S(O)Cl_2$
CASRN: (7719-09-7)

(b) The total amount
produced: 0
consumed: 100-500 t
imported: 100-500 t
exported: 0

(C) FACILITIES:

1. Name of the facility: Kémia 2
owner of the facility: Hungarian state
operating the facility: EGIS Gyogyszergyár
location: 1106 Budapest 10.kerület
Keresztúri ut 30-38
capacity for consumption:100-200 t
consumption:100-200 t

2. Name of the facility: "A" gyár részleg
owner of the facility: Hungarian state
operating the facility: északmagyarországi Vegyimüve
location: 3792 Sajóbábony
capacity for consumption: 100-200 t
consumption: 100-200 t

CONFERENCE ON DISARMAMENT

CD/970
20 February 1990

ENGLISH
Original: ARABIC/ENGLISH

LETTER DATED 16 FEBRUARY 1990 FROM THE CHARGE D'AFFAIRES OF THE LIBYAN ARAB JAMAHIRIYA ADDRESSED TO PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A STATEMENT ISSUED BY THE PEOPLE'S COMMITTEE FOR FOREIGN LIAISON AND INTERNATIONAL CO-OPERATION IN TRIPOLI ON 13 FEBRUARY 1990

... I have the honour to enclose herewith a statement issued by the People's Committee for Foreign Liaison and International Co-operation in Tripoli on 13 February 1990, concerning the agreement reached by the Soviet Foreign Minister and the American Secretary of State on the question of chemical weapons.

I would be grateful if this statement be issued as an official document of the Conference on Disarmament.

(Signed) Ibrahim Abdul-Aziz OMAR
Chargé d'Affaires

Statement by the People's Committee of the People's Bureau for Foreign Liaison and International Co-operation

The People's Committee of the People's Bureau for Foreign Liaison and International Co-operation has issued the following statement:

"During the last two days, a Soviet - United States statement was issued at Moscow, concerning an agreement by the ministers for foreign affairs of the two countries on the need to eliminate chemical weapons throughout the world and their determination to work for the signature and application of a multilateral agreement prohibiting the production and use of chemical weapons and providing for the world-wide elimination of the stockpiles of such weapons. Having considered that statement, the People's Committee of the People's Bureau for Foreign Liaison and International Co-operation wishes to emphasis the following:

1. The Socialist People's Libyan Arab Jamahiriya welcomes the content of that statement and hopes that it will be fully applied.

2. The Socialist People's Libyan Arab Jamahiriya has already clearly stated its position in regard to these and other types of weapons of mass destruction and calls for the adoption of more far-reaching measures for the elimination of chemical, biological and nuclear weapons and the destruction of the stockpiles of these weapons in order to protect mankind from their dangers and preclude any possibility of their use.

3. The Jamahiriya and the Arab nation as a whole are particularly well aware of the dangers posed by these weapons of mass destruction in view of their possession by the Zionist enemy in occupied Palestine, which is threatening the security of the region and also affecting world peace and security.

4. The Socialist People's Libyan Arab Jamahiriya, having shown the world the nature of the plant at Rabta, takes this opportunity to invite the States and companies throughout the world, which are concerned with the production of pharmaceuticals, to participate with us in the production of medicines and medical equipment.

13 February 1990"

CONFERENCE ON DISARMAMENT

CD/971
20 February 1990

Original: ENGLISH

LETTER DATED 15 FEBRUARY 1990 FROM THE PERMANENT REPRESENTATIVE OF AUSTRIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A DOCUMENT CONTAINING ADDITIONAL INFORMATION ON AUSTRIAN PRODUCTION DATA RELEVANT TO THE FUTURE CHEMICAL WEAPONS CONVENTION

I have the honour to forward to you a document containing additional information on Austrian production data relevant to the future Chemical Weapons Convention. I would ask you to be kind enough to circulate this document as an official document of the Conference.

As you are well aware, the Austrian Federal Minister for Foreign Affairs, Alois MOCK, has announced this further information in his statement before the Conference on Disarmament on 6 February 1990.

(Signed) Franz CESKA
Ambassador
Permanent Representative

AUSTRIA

Provision of data relevant to the Chemical Weapons Convention

Update, 11 August 1989

In addition to the information available for the initial Austrian declaration (CD/CW/WP.238: AUSTRIA/provision of data relevant to the Chemical Weapons Convention) the following new information was meanwhile obtained:

1. Inclusion of chemical companies belonging to the "Federal Section on Small-Scale Production" (Sektion Gewerbe) of the Austrian Chamber of Commerce (Bundeswirtschaftskammer)

In addition to the data initially provided by the member companies of the "Federation of the Austrian Chemical Industry" (FCIO; Fachverband der chemischen Industrie Österreichs) now also the member companies of the Federal Section on Small-Scale Production have provided their data, relevant to the Convention, on a voluntary basis. Thus, an even more complete picture of the actual situation within the Austrian chemical industry has been obtained.

2. Additional key precursor belonging to schedule 2.1

In addition to the key precursor chemicals already listed in table 2 of CD/CW/WP.238 Dimethylmethylphosphonate (DMMP; CAS 756-79-6) has been imported in 1988 in a total amount of less than 10 metric tons; it was quantitatively consumed in amounts greater than 1 but smaller than 10 tons, in the production of fire protection agents, at four Austrian chemical plants not identical with those mentioned in the initial report.

CONFERENCE ON DISARMAMENT

CD/972
21 February 1990

Original: ENGLISH and FRENCH

LETTER DATED 12 FEBRUARY 1990 FROM THE PERMANENT REPRESENTATIVE OF AUSTRIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING AN AIDE MEMOIRE ON THE AUSTRIAN OFFER TO HOST THE ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS IN VIENNA

I have the honour to forward to you an Aide Mémoire on the Austrian offer to host the Organization for the Prohibition of Chemical Weapons in Vienna and would ask you to be kind enough to circulate the Aide Mémoire as an official document of the Conference.

As you are well aware, the Austrian Federal Minister for Foreign Affairs, Mr. Alois MOCK, has presented this offer in his statement before the Conference on Disarmament on 6 February 1990.

(Signed): Franz CESKA
Ambassador
Permanent Representative

AIDE MEMOIRE

In the course of 1989, substantial progress could be achieved within the framework of the Conference on Disarmament towards concluding its work on a Convention on the Prohibition of the Use, Production and Stockpiling of Chemical Weapons and their Destruction. Austria agrees with others who consider 1990 as the decisive year for a breakthrough in the negotiations.

Austria fully recognizes the great importance of such a Convention and of the Organization for the Prohibition of Chemical Weapons envisaged under its provisions. Already two years ago, Austria expressed for the first time her willingness, before the Conference on Disarmament, to host this Organization in Vienna. In the light of progress recently achieved in the negotiations, the Federal Minister for Foreign Affairs of Austria, Alois MOCK, has officially submitted the detailed Austrian offer in his statement addressing the plenary session of the Conference on Disarmament on 6 February 1990. With this offer inviting the Organization for the Prohibition of Chemical Weapons to Vienna, Austria also hopes to provide an additional impulse to the negotiations with respect to the structure and tasks of the Organization.

Austria's readiness to contribute to the work of international organizations has in the past found its visible expression in the construction of the Vienna International Centre (VIC) housing the headquarters of the International Atomic Energy Agency (IAEA) and the United Nations Organization for Industrial Development (UNIDO) as well as the United Nations Office at Vienna. The Vienna International Centre was financed in its entirety by Austria and is at the disposal of its users for a symbolic rent of one Austrian shilling per year.

Austria is ready to host the future Organization for the Prohibition of Chemical Weapons in the VIC under the same conditions as apply to the organizations already located there.

(1) Austria will provide the Organization with office space commensurate with the personnel needs of the Organization during the preparatory phase, during the envisaged ten-year phase for the destruction of chemical weapons, and during the ensuing phase of permanent control activities. Austria intends to provide the Organization with provisional headquarters containing office space for 450 to 600 persons. This building, located in the centre of Vienna and providing net office space of 6,300 square meters, would be fully renovated and provided free of charge.

In order to provide for permanent headquarters, Austria envisages the construction of an office building in the area of the Vienna International Centre or adjacent to it as soon as the overall size is determined. Austria would provide the necessary land and bear the cost of construction of that office complex.

(2) In order to provide for equality of status between the new Organization and the international organizations housed in the VIC, Austria would grant to the Organization and its personnel the same immunities and privileges accorded to IAEA, the United Nations Office at Vienna, and UNIDO.

(3) Austria will reimburse the expenses incurred by the rental of adequate conference space for such conferences of the Organization that cannot be held in the building of the Organization itself or the VIC for reasons of size.

Moreover, the future Organization could profit from the following facts:

- the possibility of direct communication with the United Nations system,
- the possibility of a close exchange of know-how with the IAEA located in Vienna since 1957, which has accumulated ample experience in the field of inspection,
- the possibility of cost reductions through the joint use of technical facilities,
- the facilitation of work owing to Vienna's experience in organizing international conferences and the availability of the necessary personnel and technical infrastructure.

International civil servants of the future Organizations could make use of those advantages available in a city which has oriented itself towards an international community for many years: the existence of ten schools of international character providing tuition in eight different languages, three foreign-language theatres and the existence of churches and houses of worship for many religions.

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CONFERENCE ON DISARMAMENT

CD/973
23 February 1990

Original: ENGLISH

LETTER DATED 20 FEBRUARY 1990 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING DOCUMENTS FROM THE WYOMING AND MOSCOW MEETINGS BETWEEN THE UNITED STATES SECRETARY OF STATE JAMES A. BAKER, III AND UNION OF SOVIET SOCIALIST REPUBLICS FOREIGN MINISTER EDUARD A. SHEVARDNADZE */

I have the honour to forward to you the following documents from the Wyoming and Moscow Meetings between the United States Secretary of State James A. Baker, III and Union of Soviet Socialist Republics Foreign Minister Eduard A. Shevardnadze.

- Joint Statement on Chemical Weapons by the United States and the Union of Soviet Socialist Republics adopted in Jackson Hole, Wyoming, United States of America, on 23 September 1989.

- The Memorandum of Understanding Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics Regarding a Bilateral Verification Experiment and Data Exchange Related to the Prohibition of Chemical Weapons signed 23 September 1989, in Jackson Hole, Wyoming, United States of America.

- Joint Statement on Chemical Weapons by the United States and the Union of Soviet Socialist Republics adopted in Moscow, Union of Soviet Socialist Republics, on 10 February 1990.

- The Chapeau and Part I (Arms Control and Disarmament Issues) of the United States and Union of Soviet Socialist Republics Joint Statement adopted in Moscow, Union of Soviet Socialist Republics on 10 February 1990.

In accordance with past practice and agreement, Minister Batsanov, Union of Soviet Socialist Republics Representative to the Conference on Disarmament, will transmit these documents in Russian to the Conference on Disarmament.

I ask that you take the appropriate steps to enter these papers as official documents of the Conference on Disarmament and have them distributed to all member delegations and non-member States participating in the work of the Conference.

(Signed) STEPHEN J. LEDOGAR
Representative of the United States
of America to the Conference on Disarmament

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*/ The official Russian texts of the documents mentioned herein are to be found in CD/974.

JOINT STATEMENT ON CHEMICAL WEAPONS
23 September 1989

During their 22-23 September meeting in Jackson Hole, Wyoming, Secretary of State James A. Baker, III and Foreign Minister Eduard A. Shevardnadze reaffirmed the commitment of the United States and the Union of Soviet Socialist Republics to pursue aggressively the prohibition of chemical weapons and the destruction of all stockpiles of such weapons on the basis of a comprehensive, effectively verifiable and truly global ban. Both sides consider the early conclusion and entry into force of a convention to this effect to be one of the highest priorities for the international community. They believe that with the active and constructive participation of all States it will be possible to resolve expeditiously the remaining issues and to conclude the Convention at the earliest date, and call upon all parties to the negotiations to join them in achieving this objective.

The two sides also believe that greater openness between them and among others could contribute to the prospects for reaching an early agreement on an effective ban on chemical weapons. As a concrete expression of the commitment of their two countries toward this end, the Secretary of State and the Foreign Minister signed a Memorandum of Understanding regarding a bilateral verification experiment and data exchange. The steps agreed upon in the memorandum are intended to facilitate the process of negotiation, signature and ratification of a comprehensive, effectively verifiable and truly global convention on the prohibition and destruction of chemical weapons.

The verification experiment and data exchange will be conducted in two phases. Phase I involves the exchange of general data on the sides' chemical weapons capabilities and a series of visits to relevant military and civil facilities on their respective territories. In Phase II the sides will exchange detailed data and permit on-site inspections to verify the accuracy of the information exchanged.

The sides also agreed to undertake a co-operative effort with respect to the destruction of chemical weapons. They agreed to reciprocal visits to monitor destruction operations of the other side, and to the exchange of information on past, current and planned destruction activities and procedures.

The sides noted their agreement on some procedures for conducting challenge inspections and on the provisions governing the order of destruction of chemical weapons and of chemical weapons production facilities. These two approaches will be introduced into the multilateral negotiations in Geneva in an effort to contribute to those negotiations. They also stressed the need to concentrate in the near future on resolving remaining verification-related issues. The two sides intend to pursue intensively their bilateral discussions on a chemical weapons ban with the view to help achieve further progress in the multilateral negotiations.

The Secretary of State and the Foreign Minister expressed their grave concern about the growing danger posed to international peace and security by the risk of the illegal use of chemical weapons as long as such weapons exist and are spread. They reaffirmed the importance of and their commitment to the

final declaration of the Paris Conference on the Prohibition of Chemical Weapons held earlier this year as well as their commitment to the 1925 Geneva Protocol. The two sides emphasized the obligation of all States not to use chemical weapons in violation of international law and urged that prompt and effective measures be taken by the international community if that obligation is violated. In this regard, they underscored their support for the United Nations Secretary-General in investigating reports of violations of the Geneva Protocol or other relevant rules of customary international law.

The sides welcomed Australia's convening of a Government-Industry Conference against chemical weapons, which has just concluded in Canberra. They noted that this conference provided an important opportunity for serious discussion between Government and industy representatives from around the world. The sides expressed satisfaction with the extensive and productive work accomplished at the conference and the positive results reflected in the Chairman's final summary statement.

Finally, the sides expressed the view that a truly global, comprehensive and effectively verifiable ban on chemical weapons is the best means to address the threat posed by the spread of chemical weapons on a durable long-term basis. In the meantime, the sides emphasized their readiness to attempt to prevent the proliferation of chemical weapons. They intend to continue consultations on this issue.

MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA REGARDING A BILATERAL VERIFICATION EXPERIMENT AND DATA EXCHANGE RELATED TO PROHIBITION OF CHEMICAL WEAPONS

The Government of the Union of Soviet Socialist Republics and the Government of the United States of America,

Determined to facilitate the process of negotiation, signature and ratification of a comprehensive, effectively verifiable, and truly global convention on the prohibition and destruction of chemical weapons,

Convinced that increased openness about their chemical weapons capabilities is essential for building the confidence necessary for early completion of the convention,

Desiring also to gain experience in the procedures and measures for verification of the convention,

Having agreed as follows:

I. GENERAL PROVISIONS

1. As set forth below, the two sides shall conduct a bilateral verification experiment and data exchange related to the prohibition of chemical weapons.

2. The bilateral verification experiment and data exchange shall be conducted in two phases. In Phase I, the two sides shall exchange general data on their chemical weapons capabilities and carry out a series of visits to relevant facilities. In Phase II, the two sides shall exchange detailed data and perform on-site inspection to verify the accuracy of those data.

3. The bilateral verification experiment and data exchange is intended to facilitate the process of negotiation, signature and ratification of a comprehensive, effectively verifiable and truly global convention on the prohibition and destruction of chemical weapons by:

(1) enabling each side to gain confidence in the data on chemical weapons capabilities that will be provided under the provisions of the convention;

(2) enabling each side to gain confidence in the inspection procedures that will be used to verify compliance with the convention; and

(3) facilitating the elaboration of the provisions of the convention.

4. Terms used in this Memorandum shall have the same meaning as in the draft convention text under negotiation by the Conference on Disarmament. The draft convention text that is current as of the date of the exchange of data shall be used.

5. Data shall be current as of the date of the exchange, and shall encompass all sites and facilities specified below, wherever they are located.

6. Each side shall take appropriate steps to protect the confidentiality of the data it receives. Each side undertakes not to divulge this data without the explicit consent of the side that provided the data.

II. PHASE I

In Phase I, each side shall provide the following date pertaining to its chemical weapons capabilities:

1. the aggregate quantity of its chemical weapons in agent tons;

2. the specific types of chemicals it possesses that are defined as chemical weapons, indicating the common name of each chemical;

3. the percentage of each of its declared chemicals that is stored in munitions and devices, and the percentage that is stored in storage containers;

4. the precise location of each of its chemical weapons storage facilities;

5. for each of its declared chemical weapons storage facilities:

- the common name of each chemical defined as a chemical weapon that is stored there;

- the percentage of the precise aggregate quantity of its chemical weapons that is stored there; and

- the specific types of munitions and devices that are stored there;

6. the precise location of each of its chemical weapons production facilities, indicating the common name of each chemical that has been or is being produced at each facility; and

7. the precise location of each of its facilities for destruction of chemical weapons, including those currently existing, under construction, or planned.

In Phase I, each side shall permit the other side to visit some of its chemical weapons storage and production facilities, the exact number of which will be agreed upon as soon as possible. In addition, each side shall permit the other side to visit two industrial chemical production facilities. Each side will select the facilities to be visited by the other side.

III. PHASE II

In Phase II, each side shall provide the following data pertaining to its chemical weapons capabilities:

1. the chemical name of each chemical it possesses that is defined as a chemical weapon;

2. the detailed inventory, including the quantity, of the chemical weapons at each of its chemical weapons storage facilities;

3. its preliminary general plans for destruction of chemical weapons under the convention, including the characteristics of the facilities it expects to use and the time schedules it expects to follow;

4. the capacity of each of its chemical weapons production facilities;

5. preliminary general plans for closing and destroying each of its chemical weapons production facilities under the convention, including the methods it expects to use and the time schedules it expects to follow;

6. the precise location and capacity of its planned single small-scale facility allowed under the convention for the production, for non-prohibited purposes under strict safeguards, of a limited quantity of chemicals that pose a high risk, i.e, Schedule 1 chemicals;

7. the precise location, nature and general scope of activities of any facility or establishment designed, constructed or used since 1 January 1946 for development of chemical weapons, inter alia, laboratories and test and evaluation sites.

IV. TIMING

1. Except as specified below, Phase I data shall be exchanged not later than 31 December 1989. Visits shall begin not later than 30 June 1990, provided that the sides have agreed, with appropriate lead time, on the number of visits, as well as on the programmes and other detailed arrangements for the visits and assuming that the sides have agreed by 31 December 1989 on the type of facility to be visited by each side in its first visit to the other side.

2. In Phase I each side may withhold temporarily, for reasons of security, data on the locations of storage facilities that together contain a total quantity of chemical weapons that is not more than 2 per cent of the precise quantity of its chemical weapons. In addition, the other data pertaining to these locations, as specified in Section II, paragraph 5, shall be grouped under the heading "other storage locations" without reference to specific locations. Precise data pertaining to these locations shall be exchanged later in Phase I on a subsequent date to be agreed.

3. Phase II data shall be exchanged on an agreed date not less than four months prior to the initialing of the text of the convention. At that time, both sides shall formally and jointly acknowledge the possibility of initialing the convention within four months.

V. VERIFICATION

1. Each side shall use its own national means to evaluate Phase I data and Phase II data.

2. During Phase I, the sides shall hold consultations to discuss the information that has been presented and visits that have been exchanged. The sides will co-operate in clarifying ambiguous situations.

3. During Phase II, each side shall have the opportunity to verify Phase I and Phase II data by means of on-site inspections. The purpose of these inspections shall be to verify the accuracy of the data that has been

exchanged and to gain confidence that the signature and ratification of the convention will take place on the basis of up-to-date and verified data on the chemical weapons capabilities of the sides.

4. Prior to the initialing of the convention, each side shall have the opportunity to select and inspect at its discretion up to five facilities from the list of chemical weapons storage facilities and chemical weapons production facilities declared by the other side. During Phase I, the sides will consider whether each side may inspect not less than half of the declared facilities of the other side if their number is more than 10. Should either side as of the date of the Phase II exchange possess a single small-scale facility for production of Schedule 1 chemicals, it shall be subject to an additional inspection.

Each side shall also have the opportunity to carry out up to five challenge inspections, as specified below. All inspections shall be carried out within the agreed four months from the date of the declaration pertaining to Phase II, referred to in Section IV.

5. While the signed convention is being considered by their respective legislative bodies, each side shall have the opportunity to request from the other side, and to obtain from it, updated data. Each side shall have the opportunity to conduct up to five challenge inspections, as specified below. During this process, the two sides will consult with their respective legislative bodies, as appropriate, in accordance with their constitutional requirements.

For each side, these inspections shall be carried out within a four-month period, beginning with the date that it conducts its first inspection. The sides shall consult and agree on the dates when the first inspection will be conducted by each side. The dates shall be chosen to ensure that the inspections shall be conducted by both sides at approximately the same time. Once the inspections begin, the sides may, by mutual consent, extend the four-month periods for an additional specified period.

6. Inspections of declared facilities, as well as challenge inspections, shall be conducted in accordance with the corresponding provisions of the draft convention, taking into account that these inspections are being carried out on a bilateral basis and do not involve the bodies that will be established under the convention. If necessary, the two sides shall supplement the provisions of the draft convention by mutually-agreed procedures.'

7. Challenge inspections may be made at any location or facility of the other side, as provided for in the draft convention text, except that, for the purposes of this Memorandum and without creating a precedent, challenge inspections at facilities not on the territory of the sides may be made only at military facilities of a side in a limited number of countries; the sides will agree later on these specific countries.

8. Challenge inspections conducted pursuant to this Memorandum shall be conducted in a manner consistent with the domestic law of the side being inspected and shall be based on a recognition by both sides of the need to resolve concerns and build confidence.

9. To clarify questions related to the data provided during Phase I and Phase II, the two sides shall employ normal diplomatic channels, specifically-designated representatives, or such other means as may be agreed upon.

VI. FORMAT

1. Unless otherwise provided in this Memorandum, the agreed data shall be provided according to the specifications contained in the draft convention text for the declarations that are to be made not later than 30 days after the convention enters into force.

2. Precise locations shall be specified by means of site diagrams of facilities. Each diagram shall clearly indicate the boundaries of the facility, all structures of the facility, and significant geographical relief features in the vicinity of the facility. If the facility is located within a larger complex, the diagram shall clearly specify the exact location within the complex. On each diagram, the geographic co-ordinates of the center of the facility shall be specified to the nearest second.

VII. ENTRY INTO FORCE

This Memorandum of Understanding shall enter into force upon signature.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments, have signed this Memorandum of Understanding.

DONE at Jackson Hole, Wyoming, in duplicate this 23rd day of September 1989, in the English and Russian languages, both texts being equally authentic.

FOR THE GOVERNMENT OF THE UNION OF THE SOVIET SOCIALIST REPUBLICS:
Eduard Shevardnadze

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA: James A. Baker III

10 February 1990

JOINT STATEMENT ON CHEMICAL WEAPONS

During their 7-9 February meeting in Moscow, Secretary of State James A. Baker, III and Foreign Minister Eduard A. Shevardnadze reaffirmed that chemical weapons must be eliminated worldwide. They have agreed on the following framework for the achievement of this goal which they consider to be a high priority:

- The sides are determined to work to conclude and bring into force a multilateral, effectively verifiable Chemical Weapons Convention banning the development, production and use of chemical weapons and eliminating all stocks on a global basis. To this effect they will work to expedite the negotiations in Geneva with the view to resolving main outstanding issues as soon as possible and to finalizing the draft convention at the earliest date.

- Even as these multilateral negotiations proceed, the sides will work out a bilateral agreement on reciprocal obligations pending the international Convention including, inter alia, the destruction of the bulk of their CW stocks to equal low levels. They will proceed with the objective of completing and signing such an agreement at the June 1990 summit meeting.

- The agreement would establish a programme of co-operation on technology and procedures for safe and expeditious as well as economically and environmentally sound destruction of chemical weapons.

- When the CW Convention enters into force, the sides will further reduce their CW stocks to equal levels at a very small fraction of their present holdings over the first eight years of operation of the Convention. All remaining CW stocks should be eliminated over the subsequent two years. Of course, all CW-capable States must adhere to the Convention. Meanwhile, the sides will closely co-operate with each other and together with other States to ensure that all CW-capable States adhere to the Convention. Efforts to this effect are to begin without delay. The sides share the view that both nations should be among the original parties to the Convention whose ratification would be necessary for its entry into force.

- The multilateral Convention shall contain the provision that all production of chemical weapons will halt upon its entry into force.

- The sides will work out common principles that will guide their efforts to prevent the proliferation of chemical weapons.

10 February 1990

FROM THE JOINT STATEMENT

Secretary of State James A. Baker, III and Foreign Minister Eduard A. Shevardnadze met 7-9 February in Moscow as part of the preparations for the United States-Soviet summit to be held in June in the United States. Proceeding from their common goal of building a more stable, constructive and co-operative relationship, they reviewed the broad range of issues on the United States-Soviet agenda. The Secretary also was received by Chairman Gorbachev for an open, wide-ranging exchange of views.

The Secretary and the Foreign Minister discussed developments in United States-Soviet relations since the Wyoming ministerial and the Malta meeting between President Bush and Chairman Gorbachev. They examined the prospects for the summit, with the particular aim of advancing the objectives and priorities defined by the two leaders in Malta.

The Secretary and the Foreign Minister noted with satisfaction the progress that is being made in United States-Soviet relations. While certain significant differences remain between the sides, their relationship is increasingly marked by understanding, co-operation and the search for mutual advantage. The Secretary and the Foreign Minister believe that candid dialogue and continuing efforts at finding practical and concrete solutions will further the significant progress that has been recorded to date.

In this context, the Moscow ministerial was a useful and important step in preparing the ground for a productive summit. The high-level discussions were complemented by experts' working groups on arms control, regional, human rights, transnational and bilateral issues, as well as an informal group on economic questions. Specific agreements were reached in several areas of the agenda.

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The Secretary and the Foreign Minister held a thorough exchange of views on arms control and disarmament issues. With respect to the Treaty on the Reduction and Limitation of Strategic Offensive Arms, they reaffirmed their common objective, of resolving all major issues by the June summit in order to allow signature of the Treaty by the end of the year. To further this goal, the sides reached agreement or exchanged new proposals in a number of areas.

On air-launched cruise missiles, the sides made substantial progress on a package approach, agreeing on all remaining issues with the exception of the range threshold.

The sides also made good progress on sea-launched cruise missiles. The sides agreed that such missiles would be dealt with by parallel, politically binding declarations for the duration of the START Treaty. The Secretary and the Foreign Minister agreed that the remining issues involving SLCMs would be addressed at the negotiations in Geneva.

The sides agreed that there would be numerical limits on non-deployed ballistic missiles and the warheads attributable to them for all ICBMs of a

type that has been flight-tested from a mobile launcher. Other non-deployed ballistic missiles, non-deployed cruise missiles and non-deployed heavy bomber weapons will not be subject to numerical limits. The sides further agreed on a régime governing the location and movement of all non-deployed ballsitic missiles.

The sides reached agreement on major elements of a régime to ensure the non-denial of telemetry data during flight tests of START-accountable ballistic missiles. These provisions will be included in the START Treaty, but will be implemented early, at the time of Treaty signature, through an exchange of letters.

The United States side presented new proposals on verification of mobile ICBMs, duration of the Treaty, phasing of reductions and attribution of warheads to future types of ballistic missiles. The Soviet side presented new proposals dealing with non-circumvention. The Secretary and the Foreign Minister instructed their negotiators to discuss these new proposals and to expedite efforts on resolving remaining differences in the text of the Treaty and its associated documents.

The sides discussed the Vienna negotiations on conventional force reductions and reiterated their determination to conclude an agreement as soon as possible in 1990. The sides discussed President Bush's 31 January proposal on manpower which was presented by NATO in Vienna on 8 February, as well as NATO's aircraft proposal presented on the same date. As a result of the discussions in Moscow, the differences on personnel were narrowed. The sides agreed to continue their discussions in the context of the negotiations in Vienna and at the Ministers' meeting on "Open Skies" in Ottawa.

The Secretary and the Foreign Minister had extensive discussions on how to proceed toward their common goal of achieving, through the negotiations in Geneva, a global ban on the development, production, stockpiling and use of chemical weapons and of their destruction. The United States and Soviet delegations in Geneva were instructed to proceed with developing means of practical co-operation in the area of chemical weapons elimination. The sides issued a separate, more detailed statement on chemical weapons.

In discussions on nuclear testing, the sides made progress on resolving the remaining issues. They believe that the task of completing the verification protocols to the 1974 and 1976 threshold limitation treaties for signing at the summit is realistic. The sides agreed on the right to simultaneous use of hydrodynamic and in-country seismic yield measurements. The sides also resolved several long-standing problems regarding the implementation of the hydrodynamic yield measurement method. The sides identified the three seismic stations in each country to be used for in-country seismic yield measurements. The sides reaffirmed their adherence to the agreement reached in September 1987 with regard to the negotiations on nuclear testing.

The Secretary and the Foreign Minister expressed their hope that the Ottawa "Open Skies" conference - which they will both attend - would be a success and lead to early agreement. They believe an "Open Skies" régime can make a genuine contribution to openness, transparency and stability.

The Secretary and the Foreign Minister noted the recent consultations between their experts on chemical weapons non-proliferation, missile technology control and nuclear non-proliferation. They agreed to prepare a document for consideration by their leaders covering both principles and concrete steps of co-operation in all areas of non-proliferation - chemical, missile and nuclear.

The sides conducted a discussion of the problem of non-proliferation of missiles and missile technology. They noted that they both adhere to the export guidelines of the existing régime relating to missiles, which applies to missiles capable of delivering at least 500 kilograms of payload to a range of at least 300 kilometres. They further agreed to continue joint discussions on this problem in the interim before the next ministerial.

CONFERENCE ON DISARMAMENT

CD/974
23 February 1990

ENGLISH
Original: RUSSIAN

LETTER DATED 20 FEBRUARY 1990 FROM THE REPRESENTATIVE OF THE UNION OF SOVIET SOCIALIST REPUBLICS TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE PRESIDENT OF THE CONFERENCE TRANSMITTING DOCUMENTS FROM THE WYOMING AND MOSCOW MEETINGS BETWEEN THE MINISTER FOR FOREIGN AFFAIRS OF THE UNION OF SOVIET SOCIALIST REPUBLICS, EDUARD A. SHEVARDNADZE, AND THE UNITED STATES SECRETARY OF STATE, JAMES A. BAKER III */

I have the honour to forward to you the following documents from the Wyoming and Moscow meetings between the Minister for Foreign Affairs of the Union of Soviet Socialist Republics and the United States Secretary of State:

Joint statement on chemical weapons by the USSR and the United States adopted in Jackson Hole, Wyoming, United States, on 23 September 1989;

Memorandum of understanding between the Government of the Union of Soviet Socialist Republics and the Government of the United States of America regarding a bilateral verification experiment and data exchange related to the prohibition of chemical weapons, signed on 23 September 1989 in Jackson Hole, Wyoming, United States;

Joint statement on chemical weapons by the USSR and the United States adopted in Moscow on 10 February 1990;

Chapeau and part I (Arms control and disarmament issues) a second Soviet-United States joint statement adopted in Moscow on 10 February 1990.

In accordance with the past practice and the agreement reached, Ambassador S. Ledogar, the United States representative at the Conference on Disarmament, will transmit these documents in English to the Conference on Disarmament.

Please make appropriate arrangements for these documents to be issued as official documents of the Conference on Disarmament and distributed to the delegations of all member States of the Conference and those of non-member States of the Conference which are participating in the Conference's work.

(Signed) S. Batsanov
Representative of the USSR
at the Conference on Disarmament

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*/ The official English texts of the documents mentioned herein are to be found in CD/973.

CONFERENCE ON DISARMAMENT

CD/975
CD/CW/WP.278
9 March 1990

Original: ENGLISH

Federal Republic of Germany

Report on a trial challenge inspection

In August 1989 the Federal Republic of Germany conducted a national trial challenge inspection at an ammunition depot of the Air Force. The trial inspection showed that, through a combination of expert assessment of secondary indicators and random on-site checks, it is possible to dispel with a fairly high degree of certainty the suspicion that chemical weapons are produced or stockpiled at an ammunition depot, without sensitive information having to be disclosed.

1. Aims

The trial insepection was intended above all to clarify questions concerning

- the input needed to reveal violations of the convention,
- proof of compliance with the convention, without disclosing sensitive information.

2. Facility inspected

The trial inspection was carried out at an ammunition depot of the Air Force covering an area of approximately 150 hectares. The depot comprises a storage area with about 35 ammunition stores and ammunition service buildings, an administrative area with offices and accommodation, and a technical area. The depot has several gates linking it to road and railway systems.

3. Inspection team and in-country escort

The inspection team consisted of five persons:

- two chemical weapons specialists responsible for the actual inspection activities;
- one expert in depot organization;

- two safety experts responsible for checking the safety measures of the unit inspected.

One officer was acting as an observer of the challenging State. There was an official in-country escort.

4. Preparations

The trial inspection was conducted on the basis of the relevant provisions of the rolling text of the convention (CD/881 of 3 February 1989).

The facility was informed a few days in advance of the envisaged inspection.

5. The inspection proper

The inspection team, the escort and the observer were welcomed at the main entrance by depot officers and accompanied to a briefing room. The depot commander gave a general description of the facility in his initial briefing.

On the basis of a layout plan handed out to the inspectors and the escort, the main items of the depot were explained, with a distinction being made between the administrative and ammunition areas. After this outline of the facility, the inspectors and escort were familiarized with the safety regulations for the visit to the ammunition area.

The depot commander's briefing was followed by intensive questioning by the inspectors. In the case of questions not connected with the inspection assignment, e.g. ones concerning manpower, guards and the like, the in-country escort refused to answer on the grounds that the questions were irrelevant to the purposes of the inspection.

Even in this initial phase the reactions and answers to the questions asked by the inspectors, partly in rapid succession, can serve as first indications of whether something is being concealed in connection with the official challenge and whether the staff of the facility are reasonably willing to lend their support.

After arriving at the inspection site, the leader of the inspection team asked the depot commander to arrange for all entrances and exits of the depot to be closed, except for the main entrance. (In the case of a genuine inspection, considerable time and personnel would be needed, especially at large facilities, for closing the entrances/exits and monitoring their closure.)

Subsequently, the briefing room was placed at the disposal of the inspectors as a working room.

After the inspectors had completed their deliberations on the procedure for the inspection, the inspectors and escort made a joint tour of the facility in a bus. The inspectors simultaneously used this trip to enter the items to be inspected in the layout plan handed out to them. The inspectors paid particular attention to such details as:

- clothing and equipment of the staff;
- specific building features;
- treatment of liquid waste;
- stunted growth of vegetation.

This familiarization trip, which gave the inspectors an impression of the overall facility, was followed by a tour on foot of the administrative area, with random checks being made. For this purpose the inspectors had selected certain key items, such as the:

- medical station;
- workshops;
- stores and storage sites;
- scrapyard.

Even at this stage the inspectors were able, on account of the secondary indicators, to make an initial, unexpectedly clear assessment of whether chemical warfare agents are stockpiled or produced at the facility. It is therefore highly important to include a depot's administrative area in an inspection.

In the ammunition area, the inspectors specifically examined the repair unit, the incoming/outgoing goods unit and two ammunition stores. For this purpose the inspectors formed two groups, each of which was escorted. At this inspection stage, too, the inspectors paid attention to such secondary indicators as type of bunker, signposting, decontamination installations and the like.

Only a small part of the overall inspection was spent examining the stockpiled ammunition. Some of the ammunition was contained in sealed shipping or storage containers. This meant that it would not have been possible to examine them without damaging the seals. However, on the basis of

the features of the storage site and the containers and with the aid of simple sampling the inspectors would be able to rule out with a high degree of probability any chemical warfare agents being stored in the containers.

In a final inspection phase, ammunition experts of the inspection team explained the use of measuring and testing equipment for detecting chemical warfare agents. Using the mobile equipment it is possible, on the basis of modern technology (e.g. X-ray measurements, detection of any liquid content by a stethoscope) and without opening or chemical analysis, to distinguish on site in most cases between warfare agents with a chemical charge and ones with solely an explosive charge.

Within a fairly brief space of time it should be possible, with simple analyses using mobile equipment, to ascertain with sufficient certainty whether chemical weapons were produced or stockpiled in the ammunition depot on the day of the inspection or a while before it.

The inspection was terminated after about six hours once it became evident that no additional significant information could be obtained.

6. Conclusions

6.1 General

Summing up the experiences gained with this inspection, it can be stated that, with the aid of secondary indicators and relatively simple on-site checks, the suspicion that chemical weapons are being produced or stockpiled at an ammunition depot can be dispelled with sufficient certainty. A challenge inspection can be conducted in this manner, without having to rely on sensitive information. Sensitive areas can be protected, without impairing the aims or proceedings of an inspection.

The inspection team can obtain important information from the briefing, the questioning (including questions concerning such operating data as water and energy consumption), the inspection of the administrative area, the absence of rescue facilities and the attitude of the staff towards personal safety. The assessment of such secondary indicators thus acquires special importance, which had generally not been presumed. Hence the administrative area should also be included in an inspection.

6.2 Proposals

Apart from the aforementioned experiences, the following proposals for the conduct of chemical weapons challenge inspections can be derived from the trial inspection:

- specialized staff at the facility inspected must make available all operating data, e.g. on water supply and disposal, energy consumption;
- skilled staff at the facility inspected must be accessible at all times during the inspection;
- it must be ensured that in cases of doubt or reasonable suspicion access is granted to areas regarded as sensitive by the inspected party. In such instances, the need for confidentiality can be fully met by appropriate precautions, such as removing or covering accessible papers, illustrations or maps, switching off computers, protecting classified components;
- layout plans of the items involved are needed for conducting the inspection;
- the inspected party's briefing on the facility should be of limited duration and not be regarded as part of the inspection period. Questioning by the inspection team should, however, be included in the inspection period;
- the tasks and rights of the challenging State's observer must be precisely defined, especially to what extent access and the right to ask questions should be granted to him;
- the inspection team should have support staff of its own. Such staff are needed, inter alia, for closing (sealing) the exits and controlling the vehicles leaving or entering the main entrance kept open;
- the practical conduct of an inspection with mobile measuring and testing equipment and with the analysis of samples needs to be tried out in order to obtain an indication of the time and effort required.

CONFERENCE ON DISARMAMENT

CD/980
27 March 1990

Original: ENGLISH

CZECHOSLOVAKIA

List of experts and laboratories

for examination and analyses in the event of an investigation of reports of possible use of chemical, bacteriological (biological) or toxin weapons

1. Czechoslovakia has been consistently adhering to the principles and purposes of the Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of Bacteriological Methods of Warfare which it signed as early as 1925. Czechoslovakia has always condemned any actions violating the Protocol and has advocated elaboration of verification measures which would guarantee strict compliance with its provisions.

2. In this context, Czechoslovakia has welcomed the conclusion last year of the work of the expert group of the United Nations Secretary-General that prepared, in conformity with resolution 42/37C, technical guidelines and procedures for the timely and efficient investigation of reports of possible use of chemical, bacteriological (biological) or toxin weapons.

3. In reply to the request made in General Assembly resolution 44/115 B, and in keeping with the elaborated standards (appendix II and VI of document A/44/561), Czechoslovakia informed the Secretary-General of the United Nations that it is ready to provide two consultants, 15 qualified experts and five laboratories for examination and analyses in the event of an investigation of reports of possible use of chemical, bacteriological (biological) or toxin weapons.

4. The selected experts possess extensive knowledge in the fields of analytical and organic chemistry, biochemistry, biology, virology and toxicology. They are prepared to take samples on the spot and to analyze them. If requested, they can travel immediately to a place subjected to investigation. The laboratories are equipped so as to be capable to analyse various chemical and toxic substances and staffed with experienced specialists

5. Czechoslovakia believes that the attached list of experts and laboratories may be of interest to the Conference on Disarmament since it is ready to involve both these experts and the laboratories in implementing the future Convention and in particular in the work of the respective organs of the future Organization for the Prohibition of Chemical Weapons. Moreover, presentation of these data by a number of countries may result in more contacts between scientists in favour of extensive exchange of views, scientific publications or scientists themselves. Consequently, more effective measures against not only chemical weapons but also against highly toxic substances in general, including protection of environment, could be discussed.

6. In the following list, the information on experts is limited to their personal and professional data, without mention of their language proficiency, citizenship, availability and material or equipment which could be brought by them. The same approach to laboratories was applied: the data on specification of any particular requirements for preparation of samples, on specification of any particular requirements with respect to customs and fees and responsibilities are omitted.

7. List of experts and laboratories

The following data are given for experts:

1. Name of expert
2. Current position
3. Mailing address (office and home)
4. Telephone numbers, telex, telecopy or telefax
5. Educational background

The following data are given for laboratories:

1. Name of laboratory
2. Mailing address
3. Telephone numbers
4. General nature of the laboratory
5. Equipment and experiences

7.1. Experts consultants:

1. Jiří BAJGAR, Assoc. Prof., MD, PhD, colonel
2. Deputy Head of Department of Toxicology, Military Medical Academy, Hradec Králové

3. Office: Dept. Toxicol., Military Medical Academy
502 60 Hradec Kralove
Czechoslovakia

Home: Dukelská 789
500 02 Hradec Králové, Czechoslovakia

4. Office: 682381, 682378; Home: 611450

5. Medical Faculty, Charles University at Hradec Králové

204 scientific papers dealing with the treatment of intoxication, detection of Chemical Warfare Agents, biochemical characterization of their action. More than 20 papers dealing with chemical disarmament; expert (chemical weapons) of Czechoslovak delegation to the Conference on Disarmament (since 1985).

1. Miroslav SPLINO, Assoc. Prof., MD, PhD, colonel

2. Head of Department of Epidemiology, Military Medical Academy, Hradec Králové

3. Office: Department of Epidemiology, Military Medical Academy,
502 60 Hradec Králové, Czechoslovakia

Home: Formánkova 433
500 11 Hradec Králové, Czechoslovakia

Office: 6845792 or 682407

5. Medical Faculty, Charles University at Hradec Králové

120 scientific papers, dealing with the experimental pathogenesis and clinic of cryptococcosis, nocardiosis, yersiniosis and the microbial monitoring in immunocompromised patients.

7.2 Qualified experts

1. Viliam FOLDESI, Dipl. Eng., major

2. Technical Director of the Military Facility

3. Office: Ministry of National Defence,
PS 61/26
160 00 Praha, Czechoslovakia

Home: Majakovského 58/2
972 43 Prievidza, Czechoslovakia

4. Office: 330 42636; Home: 32520

5. Military Academy of the Land Forces (military engineering and military chemistry) Vyskov

On the basis of his theoretical educational background and practical experience, he is familiar with the methods of synthesis of Chemical Warfare Agents and other toxic substances, with their analysis including development of new methods, and with the detection of Chemical Warfare Agents in field conditions.

1. Vratislav CERNY, Dipl. Eng.

2. Analytical Laboratory Director

3. Office: Research Institute for Organic Syntheses
532 18 Pardubice - Rybitví
Czechoslovakia

4. Office: 42103 telex: 196222 vchz

5. Institute of technology level

Theoretical and practical experiences in the field of analytical and physical chemistry

1. Josef KOUBEK, Dipl. Eng., PhD

2. Assistant Professor, Institute of Chemical Technology, Prague

3. Office: Prague Institute of Chemical Technology
Suchbátarova 5
166 28 Praha, Czechoslovakia

Home: Skábova 3057
106 00 Praha 10, Czechoslovakia

4. Office: 332 4216 telex: 122 744 VSCH/C Telefax: 42-2-3114769

5. Technical University

Setting-up of industrial chemical plants, analytical control of chemicals.

1. Tibor GOGH, RNDr. (Doctor of Natural Sciences), PhD

2. Research worker, Head of research group of reaction intermediates

3. Office: Research Institute of Chemical Technology
Dimitrovova 34
836 03 Bratislava, Czechoslovakia

Home: Zikova 6
851 00 Bratislava, Czechoslovakia

4. Office: 2007/2990 telex: 925 76

5. Comenius University Bratislava,
Faculty of Natural Sciences,
Department of Organic Chemistry
Relevant experience - basic chemical research, investigations of chemical structure of organic substances.

1. Aleš HORNA, Dipl, Eng., PhD

2. Head of Department of analytical chemistry

3. Office: VCHZ Synthesia
532 17 Pardubice - Semtín
Czechoslovakia

Home: Srch 141
533 52 Staré Hradiště, Czechoslovakia

4. Office: 4925816

5. Technical University - organic chemistry, analytical chemistry
Spot organic analysis, analysis of explosives, methods development.

1. Josef FUSEK, Assoc. Prof., MD, PhD, colonel

2. Head of the Military Medical Academy, Hradec Králové

3. Office: Military Medical Academy
502 60 Hradec Králové
Czechoslovakia

Home: K Biřičce 1650
500 08 Hradec Králové, Czechoslovakia

4. Office: 6845760, 6845518; Home: 23333

5. Medical Faculty, Charles University at Hradec Králové

142 scientific papers dealing with the effect of highly toxic substances, the treatment of intoxications, pharmacological characterization of the Chemical Warfare Agents.

1. Ivan POHL, Assoc. Prof., MD, PhD, lieutenant colonel

2. Head of the Department of Education and Science, Military Medical Academy, Hradec Králové

3. Office: Department of Education and Science,
Military Medical Academy
502 60 Hradec Králové
Czechoslovakia

Home: Marxova 1415
500 06 Hradec Králové, Czechoslovakia

4. Office: 6845753, 6845600; Home: 3005

5. Charles University, Medical Faculty, Hradec Králové

50 scientific papers in Czechoslovak Journals, expert of Czechoslovak delegation to the Conference on Disarmament (1987, 1988). Qualified especially in the field of epidemiology.

1. L. ROSIVAL, MD, DSc.

2. Deputy Director, Director of the Centre of the Hygiene

3. Office: Research Institute of Preventive Medicine
Limbova 14
833 01 Bratislava, Czechoslovakia

Home: Ľ. Zúbka 7
841 01 Bratislava, Czechoslovakia

4. Office: 371 094; Home: 365 579

5. Faculty of Medicine

Experience in the field of toxicology and hygiene.

1. Otaka KRS, MD, major

2. Senior Lecturer, Department of Toxicology, Military Medical Academy, Hradec Králové

3. Office: Dept. Toxicology, Military Medical Academy
502 60 Hradec Králové
Czechoslovakia

Home: Vrchlického 573
500 02 Hradec Králové, Czechoslovakia

4. Office: 682381, 682378 Home: 611450

5. Medical Faculty, Charles University at Hradec Králové

Postgraduate training in general medicine.
Specialized course for military health and epidemiology professionals. Teaching experience in military toxicology and normal anatomy, some experiences in scientific research work, histopathology and histochemistry following intoxications with Chemical Warfare Agents.

1. Ivana TUŠAROVÁ, Dipl. Eng.

2. Research worker

3. Office: Research Institute of Food Industry
Radiová 7
102 31 Praha 10, Czechoslovakia

Home: Zelená 21
160 00 Praha 6, Czechoslovakia

4. Office: 540841-9/15

5. Institute of Chemical Technology, Prague

10 years practice, 20 publications in the field of analysis of Chemical Warfare Agents.

1. Ivan ČIŽŇÁR, DSc

2. Senior scientist, Head, Department of Bacteriology

3. Office: Research Institute of Preventive Medicine
Limbova 14
833 01 Bratislava, Czechoslovakia

Home: Púpavova 21
841 01 Bratislava, Czechoslovakia

4. Office: 372 820, 272, 560 ext. 493 telex: 92279
Home: 326 016

5. Doctor of Sciences in Molecular Biology, Bratislava,

Experience in bacterial toxicology, expert, in vitro and in vivo assessment of action of bacterial toxins.

1. Bohumil TICHÁČEK, MD

2. Director (IHE)

3. Office: Institute of Hygiene and Epidemiology
Šrobárova 48
100 42 Praha 10, Czechoslovakia

Home: Drahobejlova 5
190 00 Praha 9, Czechoslovakia

4. Office: 742812; Home: 838492

5. Charles University, Medical Faculty, Prague

Epidemiology, Antibacteriological protection.

1. Jaromír TRUNKÁT, MVDr. (Doctor of Veterinary Medicine)

2. Vice-Director of Central State Veterinary Institute, Prague

3. Office: Central State Veterinary Institute
Sídlištní 156
165 03 Praha 6 - Lysolaje, Czechoslovakia

Home: Sídlištní 212
165 03 Praha 6 - Lysolaje, Czechoslovakia

4. Office: 341 551, 341 054 telex: 123594
Home: 3239268

5. Faculty of Veterinary Medicine, Brno

31 publications, experiences in different State Veterinary Institutes, expert in Cuba (tbc, BaB and other contagious diseases); investigations in practical use of mobile vertinary laboratories; experience in the control of contagious diseases of farm animals; participation in the courses organized by FAO.

1. Otto PAWEL, MVDr (Doctor of Veterinary Medicine), PhD

2. Veterinarian with higher specialization

3. Office: Central State Veterinary Institute
Sídlištní 156
165 03 Praha 6, Czechoslovakia

Home: Na Petřinách 59
162 00 Praha 6, Czechoslovakia

4. Office: 341551 telex: 123594
Home: 3536456

5. Faculty of Veterinary Medicine, Brno

141 publications particularly in the area of field investigations; research worker in the field of effects of nuclear, biological and chemical weapons on animals and food of animal origin; teaching and training personnel of mobile veterinary laboratories.

1. Miroslav KOUKAL, RNDr (Doctor of Natural Sciences) Phd

2. Senior virologist in the Laboratory of Gnotobiology of the Institute of Microbiology, Czechoslovak Academy of Sciences

3. Office: Lab. Gnotobiology, Institute of Microbiology, C.A.S.
549 22 Nový Hrádek, Czechoslovakia

Home: Havlíčkova 1112
547 00 Náchod, Czechoslovakia

4. Office: 95722; Home: 20852

5. Faculty of Natural Science of the Charles University, Prague.

   Scientific work at different Institutes: College of Agriculture in Prague, Royal Veterinary College in London, Institute of Sera and Vaccines, Department of Virology, Laboratory Gnotobiology, Department of Virology Control of the Czechoslovak Academy of Sciences.

7.3. Laboratories

1. Department of Toxicology, Military Medical Academy

2. Military Medical Academy, Department of Toxicology
   502 60 Hradec Králové, Czechoslovakia

3. 682381, 682377, 682378, 682387

4. The Laboratory is designed to study the toxic effect of highly toxic substances including CWA, to clarify their action on biochemical, behavioural, histochemical, pharmacological and electrophysiological level, to study and develop antidotes against intoxications with these compounds, to analyse all types of samples with respect to the presence of known CWA, to test decontamination effectiveness of known and developed decontamination agents for humans.

5. Analytical equipment; possibilities for synthesis of different compounds in laboratory quantitites; biochemical, behavioural techniques, eletrophysiological methods; pharmacological testing, histological and histochemical evaluation. The experiences are documented in the Internal Reports dealing with the effects of CWA, on decontamination efficacy and reports improving CWA detection and diagnosis of intoxications. Bibliography is available on request.

1. Department of Analytical-Physical Chemistry

2. Research Institute for Organic Syntheses,
   532 18 Pardubice-Rybitví, Czechoslovakia

3. 42103

4. Organic analytical laboratory

5. Mass spectrometry; NMR; GC with ECD, FID; ICP spectrometry; AAS; Particle size; Electrochemistry - polarography, titrimetry; Thermical analysis; UV-VIS-spectrometry; 11 years experiences, authorized laboratory in Czechoslovakia.

1. Prague Institute of Chemical Technology, Department of Analytical Chemistry.

2. Prague Institute of Chemical Technology, Department of Analytical Chemistry, Suchbátarova 5, 166 28 Praha, Czechoslovakia

3. 332 4044

4. Well-equipped analytical laboratory

5. GC, GLC, NMR, MS, IR, experiences in chemical analysis of organic and inorganic samples.

1. Laboratory of Organic Chemistry

   Research Institute of Chemical Technology
   Dimitrovova 34
   836 03 Bratislava, Czechoslovakia

3. 213028, 2007/2450, 2007/2990

4. organic synthesis

5. common equipment, Gas chromotograph GCMS, IR spectrometer, HPLC DAT Detector.

1. Military Academy of the Land Forces, Department of Military Chemistry, Vyskov

2. Military Academy of the Land Forces,
   Vyskov, Czechoslovakia

3. 423 2632

4. The Department of Military Chemistry is devoted to the research in the field of indication and decontamination of chemical agents in general; it is considered as educational base for preparation of specialists in this field.

5. Specific facilities and equipment

   Analytical equipment; possibilities to test decontamination efficacy and the means of indications. Teaching experiences in the field of chemical specialists. The experiences are documented in the Internal Reports dealing with research of decontaminants and indications.

8. The attached list will be regularly updated and supplemented in accordance with Czechoslovakia's possibilities and with the needs of the Secretary-General of the United Nations as they may develop in future.

CONFERENCE ON DISARMAMENT

CD/982
30 March 1990

Original: ENGLISH

YUGOSLAVIA

REPORT ON THE NATIONAL TRIAL INSPECTION

INTRODUCTION

According to the proposal of the Ad Hoc Committee on Chemical Weapons that National Trial Inspection should be carried out by interested countries in order to verify whether it is possible to ascertain that declared chemical industry facilities are not used for prohibited purposes, a Yugoslav Trial Inspection was carried out.

Ever since the beginning of the negotiations on the prohibition of the use of chemical weapons, Yugoslavia has supported all the proposals related to the national verification measures. In this connection, document CD/482 of 26 March 1984 contains the proposal containing the scope of national verification, and the role, tasks and composition of the national team. In addition, document CD/613 of 10 June 1985 contains the proposal by which large-scale production facilities of the chemical industry should be subject to national verification measures. The aim of these inspection measures was to create confidence among the parties to the Convention, and to envisage, at this early stage of the negotiations, the conditions in which the highly complex tasks of the team of inspectors will be carried out. Today, many countries have already indicated by their measures of national trial inspection, the possible solutions and the problems resulting from such inspection. More than 20 countries have shown that the task is not an easy one, and that it requires a clear definition of the volume of the work to be done, the tasks of each member of the inspection team and the role of the facility representatives, which can be a very useful one in dealing with and defining complex operations. Finally, as it has been pointed out several times at the Conference, the purpose of such inspection is to create confidence among the parties to the Convention and to create pre-conditions for a multilateral inspection.

In view of the past experience of numerous delegations concerning the question of national trial inspection, we organized a routine inspection of a plant for the production of chemicals declared under Schedule (3) of the Annex to article VI of the draft convention.

1. OBJECTIVE

A national trial inspection was organized to test whether a facility is not used to produce any chemicals other than the declared ones, and whether the produced quantity is equal to the declared one.

2. COMPOSITION OF THE INSPECTION TEAM

- A representative of the Federal Secretariat for Foreign Affairs;
- A representative of the Federal Secretariat for National Defence;
- A representative of the Chamber of Economy of Yugoslavia, Secretariat for Chemical Industry;
- An analytical chemist from a research institute;
- A chemical engineer, doctor of chemistry from a research institute, member of the Yugoslav delegation in the CD.

3. DESCRIPTION OF FACILITY

The plant concerned is part of the PIB enterprise - Industry of Basic Chemistry, Baric, Beograd, intended for the production of toluene diisocyanate (TDI) and linear alkyl benzoates (LAB). The chemical which was the object of our inspection was phosgene, a Schedule (3) chemical. It is produced in a single-purpose reaction vessel (main reactor, fig. 1); there is also another smaller reactor for the finalization of the process (clean-up reactor, fig. 1).

The entire quantity of phosgene is utilized in the production of toluene diisocyanate (TDI). Presently, it is not envisaged for sale to other plants. (The plant is still in the stage of production preparation.) The continuous process of production was planned on the basis of the well-known Stauffer process; the raw materials are carbon monoxide and chlorine, and the catalyst is carbon. The phosgene output in this process is 92 per cent according to the project and the installed equipment. Carbon monoxide is produced in the plant (fig. 2.3), while chlorine is supplied from the HIP plant, Pancevo. For this purpose, containers for the storage of chlorine are provided for within the plant for complex (fig. 2.5). The plant does not produce other chemicals listed on the Schedule (3).

4. CONDUCT OF TRIAL INSPECTION

The visit to the plant included a meeting with the manager and engineers; the staff was informed about the purpose of the inspection. The Commission representatives familiarized themselves with the plant's production programme, and toured: the automatic control room (fig. 2.1), the phosgene production unit (fig. 2.2), the carbon monoxide production unit (fig. 2.3) and tanks for storing chlorine (fig. 2.5), the analytical laboratory (fig. 2.6) and the medical centre (fig. 2.7).

Figure 2 (Attachment 2) shows the layout of the plant's units. The members of the Commission also acquainted themselves with workers' protective and medical measures.

The plant's main product is toluene diisocyanate (TDI). The raw materials for this product are dinitrotoluene and phosgene. Dinitrotoluene is transformed into toluenediamine which reacts together with phosgene to produce TDI. Phosgene is produced according to the well-known process (Stauffer process) from carbon monoxide and chlorine, with carbon as catalyst. Carbon monoxide is produced from natural gas, while chlorine is purchased from the enterprise HIP, Pancevo. Chlorine is transported by tank-trucks.

The phosgene production unit is shown (diagram) on figure 1 (Attachment 1).

The members of the Commission were informed about the problems facing the plant at the earliest stage of production. Namely, the Commission's visit to the plant took place at a time when preparations for phosgene production were under way. Therefore, the entire facility was under the production régime, and all lines, vessels and automatic controls of the flow of raw materials and products were tested, including automatic control of technological parameters. It is envisaged that the whole process of phosgene production be carried out automatically and controlled from the room for the regulation of all parameters. The instruments for automatic process control can be sealed, whereby the process of control is verified, i.e. it is not possible to change the declared production.

All protective and medical measures applied in the course of production were discussed. To that effect, personal safety equipment for workers and inspectors was demonstrated.

Subsequently, a comparison was made with the parameters monitored in the reaction vessels, and associated pipework, storage tanks, etc. Within the plant there are steel tanks for both chlorine and phosgene. There is an empty tank for each respective chemical in case of emergency.

The Commission toured the facility and inspected all the ducts, measuring instruments, valves, reactors and distillation lines. It also acquainted itself with sample-taking procedures and the sites envisaged for taking samples.

In the analytical laboratory, the analytical methods and the sample-taking procedure were discussed. The Commission acquainted itself with the methods to be applied in sample analysis. The basic technique is gas-chromatography (GLC) for which the laboratory is equipped with sophisticated instruments. All the safety measures to be applied in the sample-taking procedure and preparation for analysis were also discussed. The inspectors were supplied with equipment for taking gas and liquid samples, and the existing plant equipment would also be used.

5. DOCUMENTATION

The inspector had an insight into the documentation concerning:

- the plant, location of facilities and tanks for storing raw materials;
- the layout diagram of the phosgene production unit of the PIB;
- the production plan;
- quantity and quality of the raw materials needed for phosgene and TDI production, and
- material balance related to the annual production of phosgene.

6. DURATION OF THE NATIONAL TRIAL INSPECTION

- A meeting of the inspection team before the on-site inspection.
- A meeting with the plant manager and engineers.
- On-site inspection (one day).
- A meeting of the inspection team after the on-site inspection.

7. CONCLUSIONS OF THE INSPECTION

The main conclusion of the inspectors on the basis of the information presented is that the facility corresponds to the standard facility for continuous production of phosgene. The capacity of the facility corresponds to the planned capacity. Within the plant grounds there are reservoirs for phosgene storage. The amount of phosgene stored in the reservoirs is used only to ensure the continuous process of TDI production.

A quantitative inspection of the process can be conducted on two bases: that of the automatic records of raw materials and products, and that of the inspection of technological parameters also automatically recorded.

Since specifically designed for the production of phosgene, the facility is not multi-purpose and it is, therefore, less doubtful whether such a facility can produce any other chemical either on list (3) or on lists (1) and (2).

8. EVALUATION OF THE INSPECTION

After the inspection several issues came up which should be underlined in order to have a quantitative evaluation of the verification results. Certain basic requirements have to be fulfilled for the inspection to be successful. It is necessary to:

(a) give a precise description of the location of the plant;

To avoid misunderstandings regarding the plant being the object of inspection within the enterprise complex, a layout of the facilities, together with the plant notification and the report of the Commission should be submitted. A summary of the processes and operations which can be carried out in the plant should be attached. Location information of the entire enterprise is also necessary.

(b) describe in detail the process of the synthesis of the chemical under inspection;

This will require the presentation of information on the material balance of the processes (input raw materials and output products), technological parameters and methods for quality control of raw materials and products. With the assistance of the plant personnel, methods of analyses, places and methods of sample-taking and all protective measures to be undertaken in the process of synthesis and in the case of analysis should be described.

(c) outline the problems occurring during the analysis of undeclared chemicals;

The inspection team is authorized not only to establish the declared production but also to find out whether any other chemical syntheses from listed Schedules (1), (2) and (3) can be made in declared facilities. For that kind of evaluation and analysis it is necessary to have a good knowledge or the principles of technological processes for the synthesis of other chemicals and of the special equipment required for the production of liquid and solid chemicals (reactor, distillation and crystallization vessels and equipment, measurement instruments, pipelines, etc.). Therefore, the inspection team should include chemical engineers, military experts, specialists in monitoring and measuring instruments and automation, and specialists in physical and chemical methods of analysis.

Furthermore, the inspection team should be equipped for taking samples directly from the reactors, air, soil and waste waters within the plant grounds or close to it. Extensive assistance of plant personnel is also expected in this context.

The ability and readiness of the facility for the synthesis of other chemicals is also established by inspecting the stocks of raw materials and reservoirs in the plant grounds.

All this indicates that it is essential to determine, during the negotiations at the Conference, the minimum data necessary to reduce doubts as much as possible about the possibilities for the violation of the Convention.

(d) reduce the possibility of any leakage of confidential commercial information;

As it was repeatedly pointed out during the negotiations, for the inspection to be successful it is necessary to take care of the protection of confidential information. Among them, commercial data and information on research and development work in an enterprise are considered to be the most sensitive. Therefore, it is necessary to determine and agree, in each particular case, which information represents a secret. This kind of information could possibly be given for inspection only to the leader of the team. Furthermore, it is necessary to determine the minimum information needed for the successful carrying out of the inspection. The minimum is determined during the process of inspection and with the assistance of the plant personnel, having in mind that the information given for inspection be sufficient for a realistic evaluation of the plant ability for declared chemicals production.

(e) limitation of the analyses of technological parameters;

Besides commercial information, information on the process of production can also be of a confidential nature. We consider that it should be of a less frequent case, but if it is necessary to classify some information as confidential, that has to be determined for each case separately. Regardless of all this, we consider that the leader of the team should also be given the above-mentioned information for inspection. The minimum of technological parameters for the successful conduct of the inspection is also determined with the assistance of the plant personnel.

(f) proposals of the standard form for data on the plant for the report;

Although it is clear that there are different plants and different processes of production of the same or similar chemicals, we consider that for a successful conduct of inspection it is necessary to propose a standard form both for submitting the applications regarding chemicals and facilities in the plant and for the report submitted to the inspection team.

In Attachments 4 and 5 we give some examples of these forms illustrated with details of the production of phosgene in the plant which was the object of inspection.

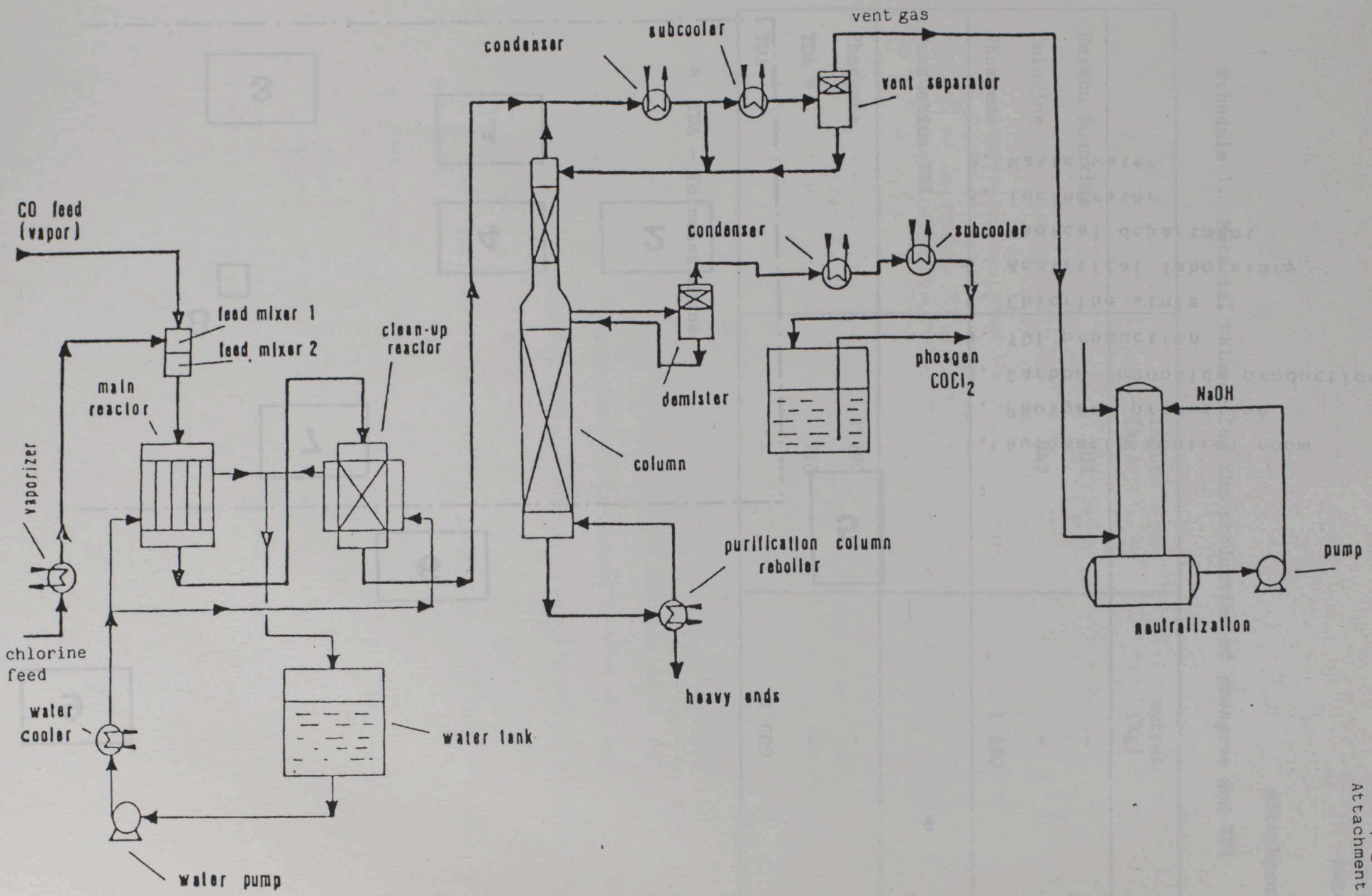
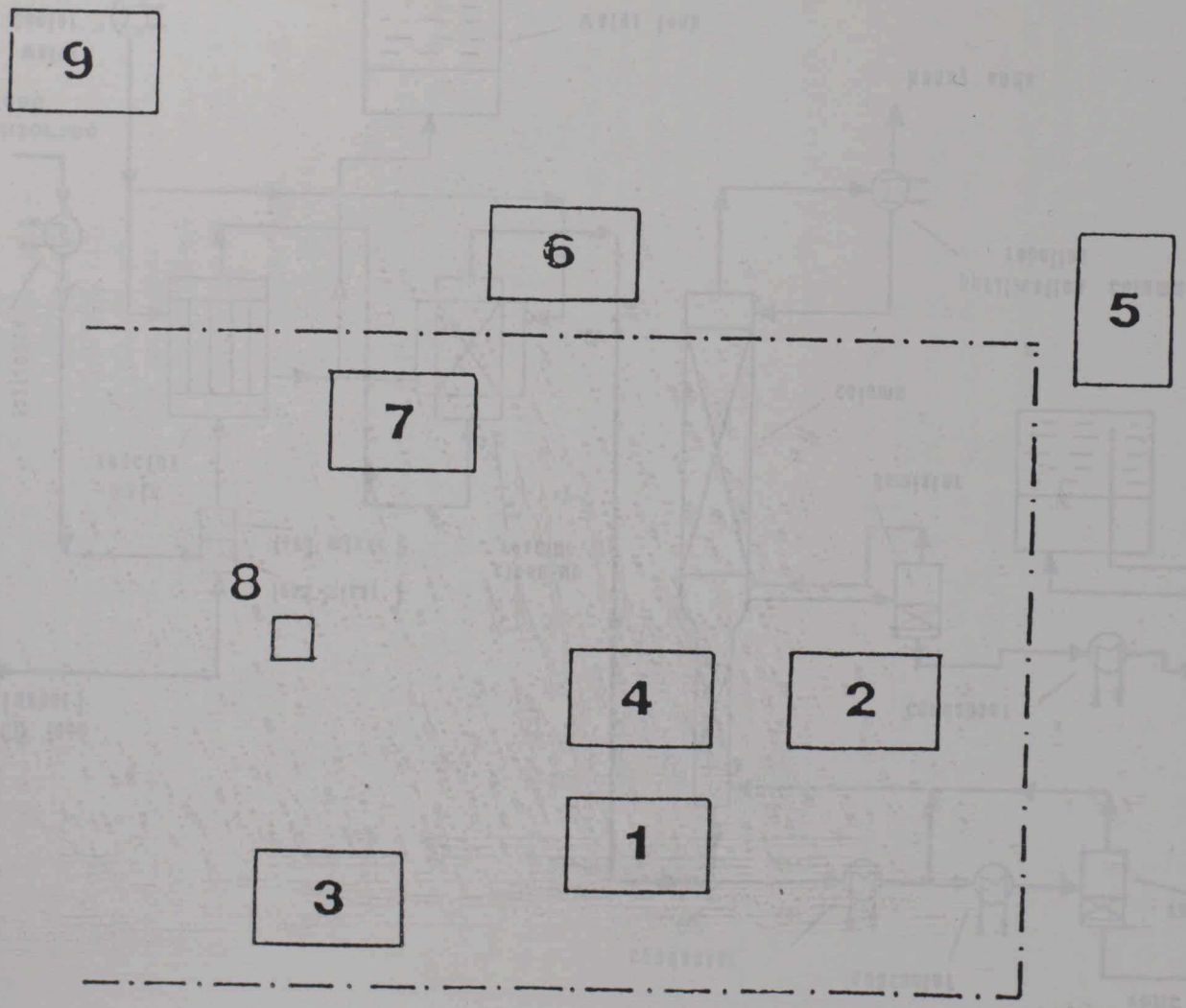


Figure 1. Process - flow diagram for the production of phosgene



1. Automatic control room
2. Phosgene production
3. Carbon monoxide production
4. TDI production
5. Chlorine store
6. Analytical laboratory
7. Medical department
8. Incinerator
9. Waste water

Figure 2. Layout diagram of the phosgene production unit of the PIB - industry of basic chemistry

Attachment 3

Schedule 1. Material balance for the production of phosgene and TDI

	input (kg)	output (kg)
Carbon monoxide	402	-
Chlorine	947	-
Phosgene	-	1 290
Production TDI		
Phosgene	1 290	-
TDA *	710	-
TDI	-	1 000

* TDA - Toluenediamine

Attachment 4

DATA ON CHEMICAL - SUBJECT OF INSPECTION

1. Chemical name, common or trade name, structural formula and Chemical Abstract Service Registry No.:

Phosgene, Carbonic dichloride, Carbonyl chloride, Chloroformyl chloride

$COCl_2$ CAS 75-44-5

2. Total amount produced, consumed, imported, and exported

(a) The facility which is the subject of inspection is in the stage of production preparation: the predicted installed production is

25 800 t/y

(b) Total amount to be produced in 1990 is around

6 500 t/y

(c) There will be no exports nor transfer to other domestic industry

3. Purposes for which chemical is produced

(a) Processed into TDI

(b) There will be no exports nor transfer to other domestic industry

(c) There is no export

Attachment 5

DATA ON FACILITY - SUBJECT OF INSPECTION

1. Name of the facility and owner, company, or enterprises operating facility

PIB - Industry of Basic Chemistry, BARIC-BEOGRAD

2. Exact location of the facility

BARIC-BEOGRAD

3. Whether the facility is dedicated to produce or process the listed chemical or is multi-purpose:

The facility is dedicated to produce only the listed chemical: Phosgene

4. Main orientation of the facility

The main orientation of the facility is the production of phosgene and TDI

5. Whether the facility can readily be used to produce a schedule (1) chemical or schedule (2) chemicals

The unit produces phosgene and cannot be readily used to produce any schedule (1) chemical or schedule (2) chemicals

6. Production capacity for the declared chemical(s)

The total production capacity of the unit synthesizing phosgene is

25 800 t/y

7. Which of the following activities are performed with regard to the chemicals?

(a) Production of phosgene
Phosgene 25 800 t/y

(b) Processing with conversion into another chemical
Phosgene is processed into TDI (20 000 t/y)

8. Whether at any time during the previous calendar year the declared chemical was stored

The facility is on trial production

9. Are there any reservoirs for raw materials and which ones?

   (a) There are three steel reservoirs of 100 m^3 each of chlorine, one of them is always empty (emergency tank)

   (b) There are three reservoirs of 16 m^3 each for phosgene exclusively to assure the continuity of the production of TDI, one is always empty (emergency tank)

10. Technology employed

   (a) Interaction of chlorine with excess of carbon monoxide in the presence of carbon as catalyst

   (b) Pressure in the main reactor: 5 bars

   (c) Temperature in main reactor 70°C

11. What facilities are there for the conversion of waste gases and waters?

   (a) Waste gases: neutralization and incineration

   (b) Waste water neutralization

CONFERENCE ON DISARMAMENT

CD/983
CD/CW/WP.283
5 April 1990

Original: ENGLISH

Federal Republic of Germany

Report on the second trial inspection (challenge inspection) in the Federal Republic of Germany

Summary

At an earlier trial challenge inspection in an ammunition depot, the main emphasis had been on the significance of secondary indicators (see CD/CW/WP.278). The second trial inspection conducted in November 1989 on that basis served the principal purpose of obtaining for the first time data on the use of instruments under practical conditions. To this end, a military site with operational units was selected as a considerably more complex item for inspection.

It was demonstrated that, with the aid of random on-site checks and the use of currently available portable/transportable ultrasonics, radiography and mass spectrometry equipment, it is possible to dispel with adequate certainty the suspicion that chemical weapons are being produced or stockpiled, without sensitive information having to be disclosed.

However, depending on the number of samples and test items, the careful application of the procedures and equipment and the evaluation of the measurements may take more than 24 hours. Consequently, more efficient equipment and methods should be developed to meet the specific time requirements of a challenge inspection. In this respect, the United Kingdom's working paper of 12 January 1990 (CD/CW/WP.269) offers interesting ideas.

1. Aims

The main objective of the trial inspection, carried out on the basis of an unspecified suspicion of chemical weapons production or stockpiling, was to find concrete answers to the following questions through the practical use of instruments:

- Are the currently available ultrasonic or radiographical methods suitable for on-site, non-destructive categorization of ammunition?

- How many samples and what kind of samples can be adequately categorized on site with the aid of the mobile mass spectrometer?

- How much time is needed?

- Are three inspection assistants sufficient for the proper and efficient use of the instruments?

Furthermore, from the viewpoint of maintaining secrecy, the inspection was expected to clarify the question as to what extent the observer from the challenging country can be granted access.

2. Facilities inspected

The trial inspection concerned a military site where field artillery and NBC defence battalions are stationed. Two facilities were inspected:

- the joint barracks complex covering approx. 23 hectares and comprising an accommodation and medical area, a technical area with workshops and storage buildings, a training area, a heating station and heating oil store, a fuel store, open spaces with parked vehicles and diverse equipment;

- the associated ammunition storage site approx. 7 km away, which covers approx. 39 hectares and consists of ammunition

bunkers, equipment stores, workshops, administrative buildings and guard houses.

In keeping with its mission, the NBC defence battalion possesses special decontamination equipment, such as vehicles with tank superstructure and spraying device, stocks of chemical decontaminants and protective suits, as well as special equipment for the detection of chemical weapons.

3. Inspection team, observer, escort

The reinforced inspection team consisted of eight persons:

- two chemical weapons specialists responsible for the actual inspection activities,
- one expert on the forces inspected,
- two security experts responsible for checking the security measures of the unit inspected,
- three technical inspectors for carrying out checks with test and analysis equipment.

The team was accompanied by one officer acting as observer of the challenging country and by an in-country escort.

4. The inspection proper

The trial inspection, which was planned to last 24 hours, began with the arrival of the team at the facility to be inspected. After a short briefing, the inspectors asked questions, many of which were only answered after consultation with the in-country escort. This subsequently led to far-reaching demands by the inspectors.

Throughout the inspection, the observer made use of his right to suggest specific checks to the inspection team. He was given the same access and information as the inspectors. A restriction of his activities occurred when the inspection team

was temporarily divided into two groups in order to carry out parallel checks at different points. The observer was free to choose where to take part. For the sake of an efficient inspection, the team refused to carry out all checks one after another merely so that the observer would be able to observe all inspection activities.

During the random checking of the accommodation, administrative, medical and technical areas, the inspectors were permitted to examine the relevant files and regulations and to take samples from diverse containers for immediate analysis. Some ammunition and chemical bunkers and stores where selected for closer examination, the choice being made either arbitrarily or on the basis of hazard class markings.

For the physical determination of the contents of ammunition and containers without opening them or taking samples, use was made of an ultrasonic wall thickness tester, an electrostethoscope and radiographic equipment.

For the qualitative chemical categorization of chemicals found, a mass spectrometer was employed.

4.1 Physical examinations

When examining ammunition, the emphasis lay on ruling out any liquid chemical charges and distinguishing it from explosive ammunition.

The ultrasonic wall thickness tester was used to measure the wall thickness of ammunition. Since chemical warfare ammunition usually has thinner walls than explosive ammunition, such measurements permit conclusions to be drawn in this respect. These measurements were also needed to ascertain the correct exposure time for radiography.

The likewise portable electrostethoscope served to determine the presence of fluids. When ammunition is subjected to kinetic stress, the electrostethoscope permits the typical noise of the moving liquid to be detected. The sound waves generated are

picked up by a piezoelectric element, amplified and heard via a headset, provided that the probe of the stethoscope is in direct contact with the item to be examined. Radiography involving X-rays for the non-destructive examination of the internal technical structure was used to identify specific features of chemical warfare ammunition. The transportable X-ray unit (min. 300 keV energy) employed for this purpose requires a 220 V power supply, which was locally available. The exposed film material was developed in a nearby hospital.

4.2 Analysis of samples

A mobile mass spectrometer (MM1) installed in a vehicle was available for sample analysis. The instrument programmed for the detection of chemical warfare agents through selected ion monitoring (SIM) was, with the approval of the in-country escort, also employed for more intrusive examination of samples through the recording of partial spectra within relevant mass ranges and of spectral series. To confirm the identity of chemicals found, the samples taken were first checked by SIM for the absence of chemical warfare agents listed in schedule 1. Then they were identified on the basis of spectral series after being subjected to coarse separation both through fractional evaporation and through chromatographic effects in the diaphragm inlet system used.

The chemicals analyzed included perchloroethylene, ethanol, fuels and CS, which is used both for exercises and for testing of the tightness of gas masks.

For the examination of complex air and coating samples, it would have been necessary to convert the instrument and replace the inlet system by a gas chromatograph for greater sensitivity and selectivity. This was dispensed with for reasons of time.

5. Conclusions

The selected test and analysis equipment of the present state of the art can be successfully used for a challenge inspection. The considerable time still needed can be appreciably reduced

by increasing the number of instruments and of technical staff, by further routine in carrying out the examinations and by refining the processes and equipment, which should be specifically tailored to the time requirements of challenge inspections.

A challenge inspection, with respect to the use of test and analysis equipment, can generally be carried out all the more easily, the more precisely the suspicion giving rise to the challenge is described.

Even at this stage it is possible to ascertain the identification of relevant chemicals quickly, reliably and on the spot. A sample throughput of ten to twenty an hour can be achieved.

Careful examination of complex trace samples needs far more time. Even the taking and preparation of samples in this respect requires a lengthy period. Confinement to a few, carefully selected samples is therefore necessary.

Additional chemical screening procedures with a detection kit similar to that presented in the Netherlands working paper CD/CW/WP.271 can be used to advantage in this connection in order to select samples suitable for more extensive mass spectrometry.

In the present case, the inspection team did not have sufficient staff to develop an adequate basis of data within 24 hours.

In a future trial inspection a so-called "Gammamat" should be used for the radiographical examination of munitions involving gamma rays. This transportable unit, being independent on an external power supply, is expected to permit versatile operation even in confined spaces and the investigation of several items at the same time, thus improving the efficiency of the investigation to a considerable extent.

The trial inspection showed that it was possible to protect sensitive data and facilities, which exist at this site only in a limited number, even though the observer played a very active and challenging role, maintained a constant dialogue with the inspection team and enjoyed the same access as the team. It is not yet possible to generalize these results, because some military installations have far more sensitive data and facilities than the site inspected.

CONFERENCE ON DISARMAMENT

CD/984
CD/CW/WP.284
10 April 1990

Original: ENGLISH

FEDERAL REPUBLIC OF GERMANY

Ad hoc Verification: The Establishment of National Registers

In presenting its concept of ad hoc checks the delegation of the Federal Republic of Germany proposed the establishment of National Registers listing all relevant facilities of the chemical industry (cf. CD/869 of 6 September 1988). These registers to be provided by States parties to the Technical Secretariat were to serve as the basis for the selection of facilities to be inspected by ad hoc checks.

Detailed discussions on a possible ad hoc verification régime have subsequently taken place in Working Group 1 of the Ad hoc Committee on Chemical Weapons in the course of the spring part of the 1989 session of the Conference on Disarmament. These discussions also focused on the issue of National Registers and showed the need to further explore the conceptual approach to be taken in this regard.

With a view to providing a basis for further discussion the following concept of National Registers is suggested:

1. Purpose

National registers are to serve two purposes:

- First, National Registers will constitute a confidence-building measure as they are listing all relevant plant sites of the chemical industry world wide according to an agreed format.

- Second, National Registers will provide the declaration basis for the selection of facilities to be inspected by ad hoc verification measures.

The following discussion of the issue focusses solely on the latter purpose.

2. General considerations concerning National Registers as the declaration basis for ad hoc verification

Ad hoc verification measures are a complementary instrument their sole purpose being to verify on a routine basis whether, at the time of the check, substances listed in the Annex on Chemicals and not declared for facilities at the plantsite are being produced. As such they require - as the other routine verification measures of the Convention - a reliable declaration basis.

As National Registers are to serve this purpose, they have to be binding: In its National Register a State Party formally declares all relevant facilities of its chemical industry which will be subject to ad hoc verification measures.

Omissions and false information in the National Register will thus have to be considered as violations of declaration obligations. This notwithstanding it is understood that - in particular during the first years after the entry into force of the Convention - National Registers provided by States Parties may contain inaccuracies and unintentional omissions which will be due to technical difficulties in registering all relevant plantsites within a State in accordance with the proposed format. It is to be expected that also the other declaration obligations under Article VI might present some teething troubles, but that those will soon be overcome. Initial inaccuracies in National Registers will thus certainly not be considered serious breaches unless they prove to be intentional.

3. Requirements for National Registers

National Registers must be tailored to the purposes and needs of the inspection measure for which they provide the declaration basis. As ad hoc verification measures are to address the problem posed by the fact that existing facilities of the chemical industry can be misused for producing chemical weapons, National Registers are to provide a comprehensive picture of the relevant parts of the chemical industry. They have to list all facilities which can possibly be misused for the production of chemical weapons. As such a capability is hard to define unambiguously it is suggested that a broad approach be adopted. For this approach to be feasible and acceptable it has to be easily implementable by States Parties and at the same time it has to be ensured that confidential information is protected.

4. Suggested modalities for establishing National Registers

In order to meet the requirements described above the following approach to the establishment of National Registers is suggested:

- Each State Party shall provide to the Organization a National Register of its chemical industry.

- This register shall include all plantsites which produce discrete chemical compounds through technical processes based on chemical reaction(s), the total annual amount of this production exceeding [10] tonnes.

- Those plantsites which exclusively produce iron smelting products, cement, glass, ceramics shall not be subject to declaration (1).

(1) Whether additional production areas are to be exempted from the declaration obligation needs further consideration.

Underlying the approach outlined in the three elements above is the basic criterion that only those plantsites shall be declared in the National Register that perform chemical reaction(s). For this purpose chemical reaction is defined as any transformation of chemicals where rearrangements of atoms, groups of atoms, ions or radicals of one or more substances (called basic or raw materials) result in the formation of new substances. Not included are physical processes such as crystallization, extraction, etc. Also not included are product formulation and mechanical processing of chemicals (2).

The plantsite is suggested to be the basic unit of registration in National Registers. The definition of this term as well as definitions of other pertinent organizational entities/structures in the chemical industry are set out in the Annex to this Working Paper.

5. Contents of the National Register

In order to enable a meaningful selection of plantsites to be inspected by ad hoc verification measures the National Registers should include information according to an agreed format. It is proposed that they include at least the following items:

- name of the plantsite and the owner, company or enterprise operating it,

- exact location of each plantsite

- main orientation of each plantsite

(2) As biochemical processes pose quite distinct verification problems, toxins are left out of consideration in this paper. It would seem that in general further in-depth consideration is needed as to how to cope with toxins in terms of verification.

- principal product groups (3) of each plantsite.

- size of overall annual production for each product group within ranges (10 to 100 tonnes, 100 to 1000 tonnes, 1000 to 10 000 tonnes, 10000 to 100 000 tonnes, above 100 000 tonnes).

6. Submission of National Registers

National Registers should be submitted by all States Parties [6] months after the entry into force of the Convention. Information to be provided under para. 5 should be updated annually at a fixed date (only changes as compared with the previous declaration to be reported).

7. National Registers and the conduct of ad hoc verification measures

Due to their non-intrusive character ad hoc verification measures provide for the possiblity of verifying a large number of facilities of a plantsite within a relatively short period of time. However, even if the plantsite is chosen as the basic unit of registration in the National Register, not all production facilities of a plantsite receiving an inspection in accordance with an ad hoc verification regime would be checked. Rather it could be envisaged that the inspection team, upon arrival at the site, would select one or more particular production facilities to be checked. In this way equality of obligations undertaken can be ensured (cf. different sizes of plantsites in different countries).

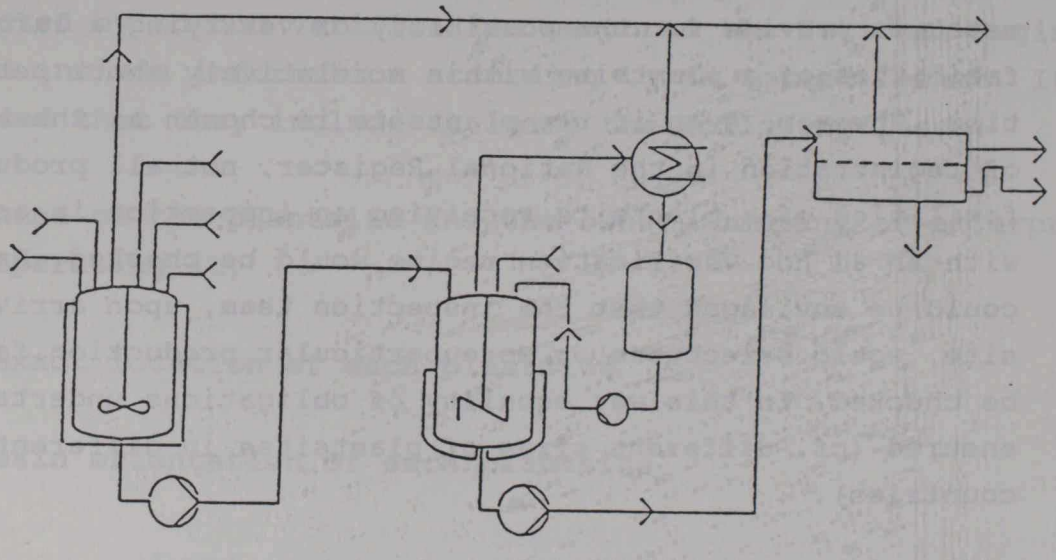
(3) Product groups could be pesticides, pharmaceuticals, dyes, pigments, etc. It needs to be discussed further what the categorization should look like also with regard to the requirement that the most relevant production/plantsites should be easily identifiable. In this regard it may e.g. be necessary to have "organophosphorous pesticides" as a separate product group.

A N N E X

The Definition of Facilities of the Chemical Industry

1. PLANT SECTION

A plant section for the manufacture of a chemical product ("product") is the means for operating individual process steps such as reaction, work-up, purification, etc. A process step can technically consist of



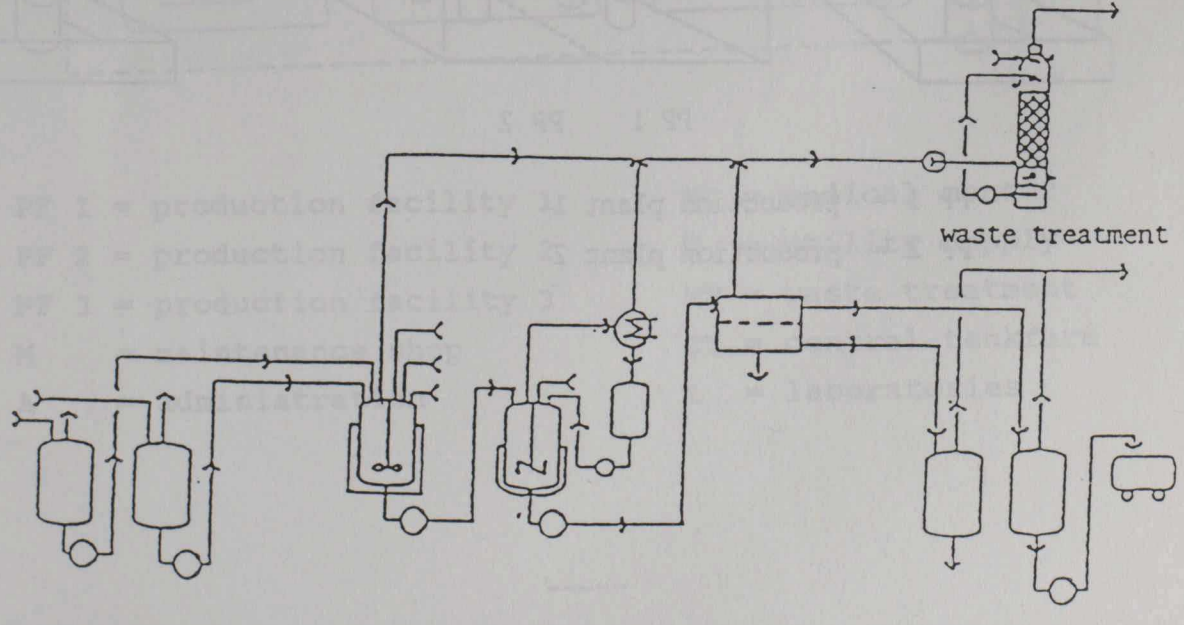
reaction work-up

several basic unit operations, i.e. the process step of purification can consist of the three unit operations crystallization, isolation and drying.

2. PRODUCTION PLANT

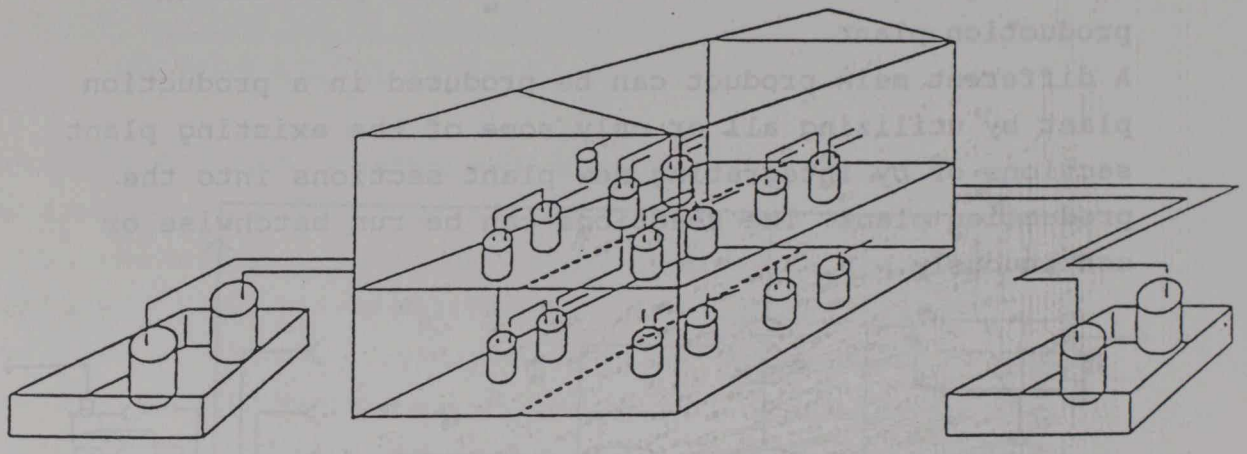
A production plant incorporates all necessary plant sections for the manufacture of a product such as reaction, work-up and purification. Also included are all necessary installations and equipment for process monitoring and control, tankfarm for raw materials, intermediates and final products and specific equipment for waste treatment. Often the name of the product is used to identify a production plant, e.g. dialkylamin plant. Central installations serving several production plants such as central cooling systems and waste treatment, are not included in the definition of a production plant.

One main product or simultaneously several main products, resulting from one main reaction, can be produced in a production plant.
A different main product can be produced in a production plant by utilizing all or only some of the existing plant sections or by integrating new plant sections into the production plant. The reactions can be run batchwise or continuously.



3. PRODUCTION FACILITY

A production facility consists of independent or interrelated production plants including the necessary auxiliary plant, which are physically integrated in a production building or in an open steel structure.
The production plants, with regard to their products, can be operated independently, but have certain plant sections in common, such as specific waste treatment and tankfarms. They can also be linked in order to produce one final product.

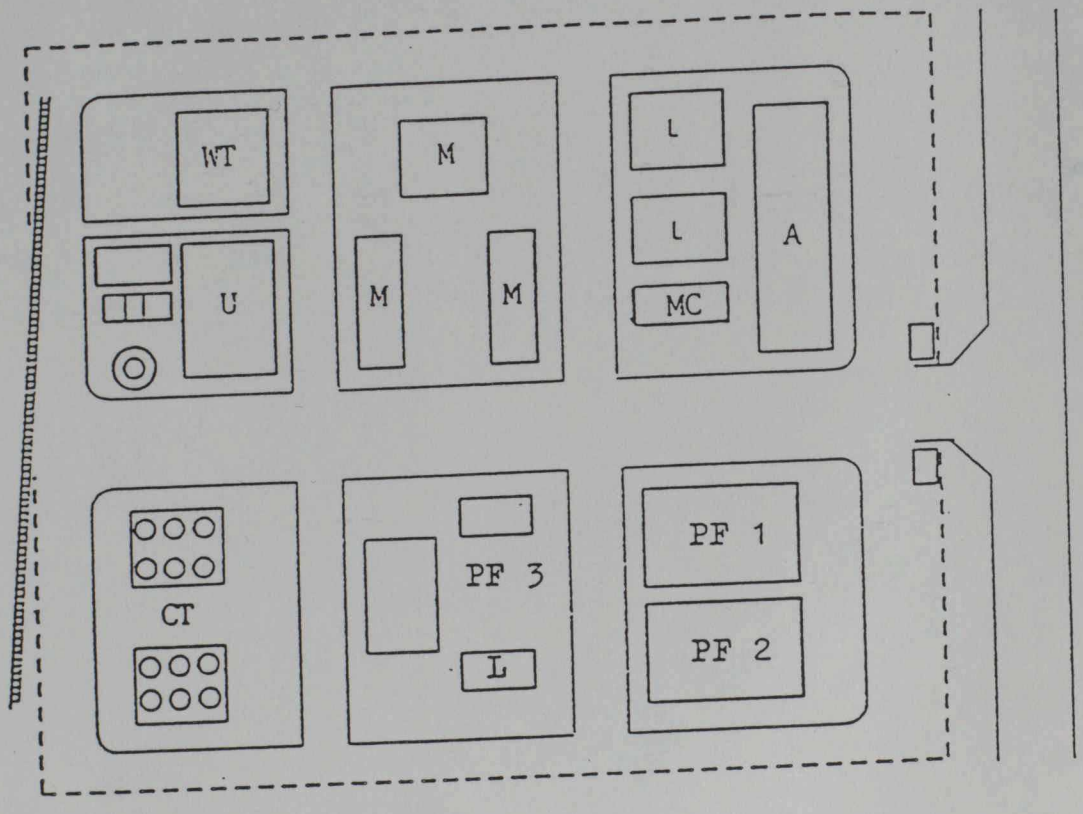


PP 1 PP 2

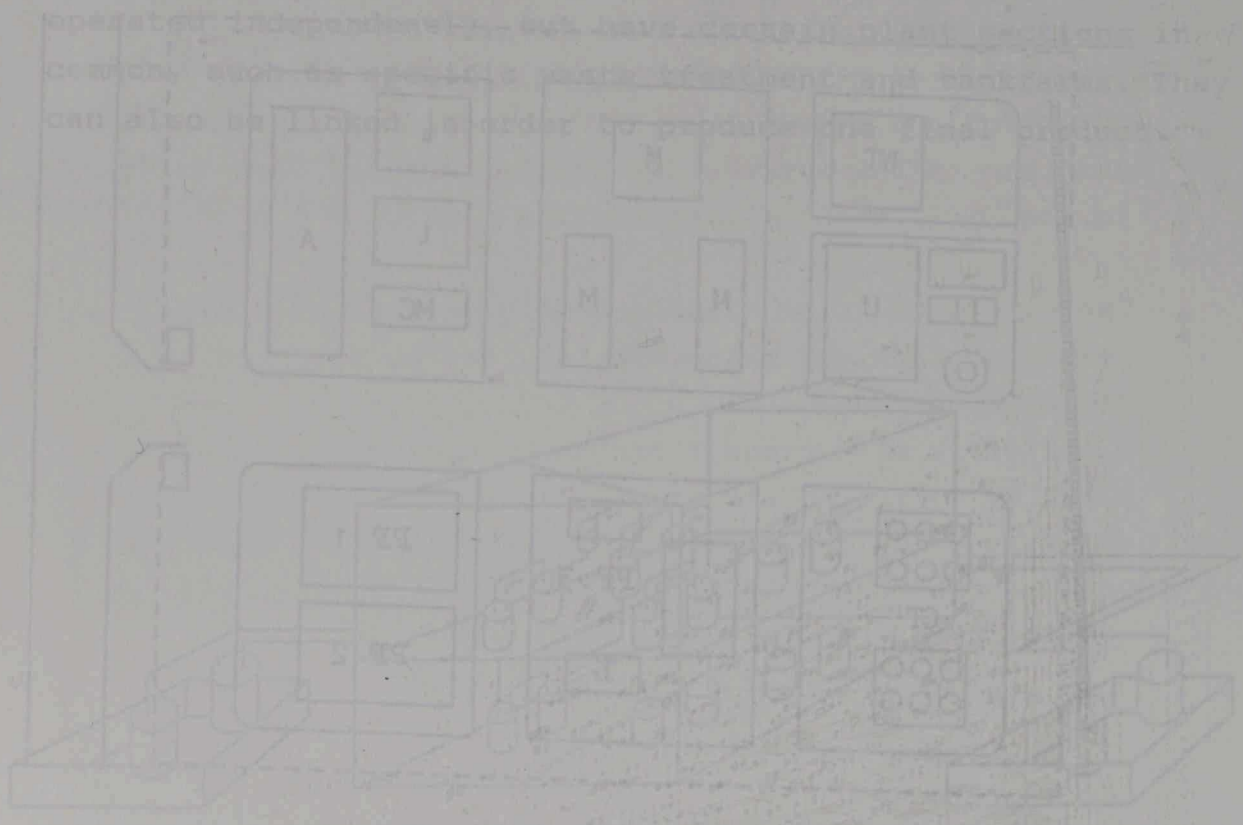
PP 1 = production plant 1
PP 2 = production plant 2

4. PLANTSITE

A plantsite is the local integration of one or more production facilities together with infrastructure, like maintenance shops, administration, medical center, central waste treatment plants and utility supplies.



PF 1 = production facility 1
PF 2 = production facility 2
PF 3 = production facility 3
M = maintenance shop
A = administration
MC = medical center
U = utility supply
WT = waste treatment
CT = central tankfarm
L = laboratories



CONFERENCE ON DISARMAMENT

CD/985
CD/CW/WP.289
17 April 1990

Original: ENGLISH

Ad hoc Committee on Chemical Weapons

POLAND

Provision of data relevant to the Chemical Weapons Convention

In order to contribute to the negotiations on the Chemical Weapons Convention, the Republic of Poland presents below data relevant to the future Convention in accordance with the format proposed in document CD/828 of 12 April 1988.

The data reflect the situation in Poland as at the end of 1989. The data on the production and/or use of chemicals relevant to the Convention were provided on a voluntary basis by the respective Polish bodies and institutions. The chemicals contained refer to the lists of the Schedules 1, 2 and 3 in document CD/952 of 18 August 1989. The thresholds for production and consumption were for Schedule 1 : 100 grams/per year, Schedule 2 : 1 tonne/year and Schedule 3 : 30 tonnes/year.

TABLE 1

Type of data	Response	Note
1. Presence of CW on own territory	No CW are located in the territory of Poland	
Possession of CW on territory of another State	No	
2. Aggregate number of facilities for the production and storage of CW	None	
Aggregate number of facilities for the production, processing and consumption of chemicals on Schedules 1, 2 and 3	8	1/
3. Types and names of CW agents	Poland neither produces nor possesses CW	
Types of CW munitions stored; CW agents stored in bulk	None	
Number and names of chemicals on Schedules 1, 2 and 3 produced in the chemical industry	6	2/
4. Plans and methods for the destruction of CW including the number of facilities and the anticipated length of their operation during the 10-year destruction period	None	

1/ Detailed information listed in table 2.

2/ The names of chemicals produced in Poland above the set level are listed in table 3.

TABLE 2

Detailed information on item 2 of table 1

Type of data	Annual quantity	Number of facilities
Schedule 1		
Production	more than 100 g but	1
Consumption	not more than 10 kg	2
Schedule 2		
Production	more than 1 tonne	None
Consumption	more than 1 tonne	None
Schedule 3		
Production	more than 30 tonnes	3
Consumption	more than 30 tonnes	5 */

*/ That figure contains three facilities producing Schedule 3 chemicals mentioned above.

TABLE 3

Schedule	Number of facilities	Produced chemicals	Note
Schedule 1	1	Mustard gas (H) (505-60-2) Lewisite	1/
Schedule 2	-	No	
Schedule 3	3	Phosgene (75-44-5) Hydrogen cyanide (74-90-8) Phosphorus trichloride (7719-12-2) Phosphorus oxychloride (10025-87-3)	

1/ The production of chemicals on Schedule 1 occurs in the Republic of Poland only for permitted purposes.

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CONFERENCE ON DISARMAMENT

CD/987
CD/CW/WP.290
19 April 1990

Original: ENGLISH

CANADA

National Trial Inspection at a Single Small-scale Facility

A. INTRODUCTION

During 1989 various countries carried out trial verification inspections on a national basis in their civilian chemical industry and reported the results to the Conference on Disarmament. The majority of these trials simulated routine inspections of chemical plants preparing key precursors currently listed on schedule 2A of the draft Convention on Chemical Weapons. More recently, some states, including the United Kingdom (CD/921) and the Federal Republic of Germany (CD/950), have reported trials of other types of inspections, such as challenge procedures and ad hoc verification and others are underway. Continuing this trend, Canada carried out in November 1989 a practice inspection at a simulated single small-scale facility (SSSF) where small amounts of schedule 1 chemicals have been prepared for protective purposes. The facility used for the trial is located at the Defence Research Establishment Suffield (DRES) in Alberta.

Canada does not possess any production facilities for chemicals currently listed on schedule 1. If such chemicals are needed, they are prepared in a standard organic synthesis research laboratory of the type found at many universities and research institutes. The research laboratory at DRES does not have any large reactors or permanently installed process equipment. Its capacity is limited to bench-scale synthesis. Such a facility would not pose the same threat to the goals of the chemical weapons convention as would a dedicated facility with larger production equipment, perhaps a pilot plant for which the model agreement provisions of the draft Convention (CD/952) seem to have been written. Thus the designation of the DRES laboratory as a single small-scale facility required a specific definition and careful adaptation of the procedures needed for routine inspections.

This working paper presents the results of a Canadian practice inspection held at the DRES research laboratory, part of which was defined as a single small-scale facility for the purpose of this trial.

B. GENERAL APPROACH

1. Aims and Objectives

The practice inspection provided an opportunity to examine and develop inspection procedures as a contribution to the work of the Conference on Disarmament. In addition, it was possible to explore the impact of such inspections on national programs, particularly those involving research into chemical protection, such as are carried out at the Defence Research Establishment Suffield.

The basic aims of the practice inspection were to evaluate the approach to verification at a single small-scale facility as outlined in the then current version of the rolling text (CD/952), to develop its application to a laboratory facility, to determine the problems created for the facility by the verification requirements, and to assess its applicability to this type of facility.

Specific verification objectives of the inspection were to demonstrate:

a) that the declarations made with respect to the facility were consistent with the obligations of the convention.

b) that the quantities of schedule 1 chemicals produced, stored, transferred, or consumed were within the prescribed national limits of 1 metric tonne; and

c) that the reaction vessels used in the facility were not designed for continuous operation and were of a volume not in excess of [10] [100] litres.

The Canadian trial simulated a routine periodic (annual) inspection. It was assumed that previous declarations, agreements, reports, etc., were available. Wherever practicable, this background information was simulated.

2. Relevant Provisions in the Draft Convention

The practice inspection was planned according to the provisions of Annex 1 to Article VI of CD/952, in particular those provisions pertaining to production at a

single small-scale facility. The model for an agreement relating to single small-scale facilities in Appendix II of CD/952 formed the basis for arrangements with the laboratory on access, assistance and additional information to be obtained. Guidance on inspection procedures was obtained from the guidelines for the international inspectorate in the Addendum to Appendix I and the draft protocol on inspection procedures in Appendix II.

3. Identification of the Single Small-Scale Facility

The simulated single small-scale facility involved in the practice inspection was defined as a single research laboratory located in a secure, specially ventilated suite within the main laboratory building at DRES. It was a standard organic synthesis laboratory equipped with five commercially available fumehoods with separate filtration and ventilation systems and a sixth fumehood specifically equipped for the secure storage of highly toxic chemicals. Associated supply systems, external storage areas, ventilation stacks and waste disposal areas were included in the facility description.

4. Type of Inspection

Examination of the provisions of the draft CWC suggested the following sequence of verification events for a single small-scale facility after entry into force of the Convention:

a) initial declaration of the single small-scale facility within thirty days;

b) initial inspection;

c) preparation of the facility agreement;

d) submission of the initial inspection report;

e) annual declarations of projected activities at the facility;

f) annual declarations of activities at the facility in the previous calendar year;

g) advance notification of changes to the facility;

h) routine periodic (annual) inspections; and

i) submission of inspectors' reports on routine inspections.

5. Initial Declaration

A simulated initial declaration was provided by the facility. This comprised: the location and detailed technical description of the facility required by Annex 1 to Article VI; a statement of the quantities of schedule 1 chemicals possessed as of the date of entry into force; and a list of schedule 2A chemicals and their quantities maintained as precursors for schedule 1 synthesis.

6. Initial Inspection

An initial inspection was not held prior to the trial. Instead, a planning group representing the facility, the inspectors, and the National Authority developed the required information over a two-day period prior to the inspection.

7. Facility Agreement

The necessary elements of the facility agreement were worked out during the planning session using as a basis the model for an agreement relating to single small-scale facilities, as outlined in the rolling text (CD/952).

8. Annual Declarations

Prior to the trial, a simulated annual declaration was issued. This was a relatively short document involving a simple update of the information provided in the initial declaration. As a result, material balance verification was straight forward, requiring only the addition of changes resulting from activities between the date of the annual declaration and the inspection.

C. DETAILED APPROACH

1. Dates and Duration

The trial was held during the third week of November 1989 and lasted two-and-a-half working days.

2. Mandate

The mandate for a routine inspection of the single small-scale facility was based on the elements of the facility agreement worked out during the planning session.

3. Composition of the Inspection Team

The inspection team was composed of a representative of the Department of National Defence as team leader, a representative from Canadian industry, and five scientists with a variety of backgrounds and experience. At least two of the inspectors were experienced in the preparation of schedule 1 chemicals, one was a practising analytical chemist, and two were widely knowledgeable in negotiations on the draft Convention.

4. Other Participants

The practice inspection was carried out under the direction of a senior scientific officer assigned from the Department of National Defence. He also played the role of a representative from the national authority and participated as an observer. There were also observers from the Arms Control and Disarmament Division of the Department of External Affairs and from the Arms Control Verification Team of the Department of National Defence.

5. Advance Preparations

In addition to the planning meeting, the inspection team was briefed at a half-day meeting the week before the inspection. All relevant material was supplied to the inspectors and observers in advance. This included information from CD/952 and examples of national trial inspection (NTI) reports previously presented to the CD. This material was discussed at the half-day briefing session.

Accommodation, meals and local transportation were arranged by the facility, and a small conference room was provided as a base of operations for the inspectors.

6. Inspection Equipment

All equipment used in the practice inspection, including photographic and safety equipment, was provided by the facility.

7. Measures to Protect Classified Information

Inspectors were treated in a fashion similar to any visitors to the establishment. They were escorted during all movements within the facility. It was not found necessary for the inspectors to have classified information in order to carry out the inspection. It was also not necessary to remove any equipment from the facility prior to the inspection or to shroud any items. The laboratories were left in their normal working state with no special clean-up prior to the inspection. The inspectors generally met and spoke only to those officially involved in hosting the inspection, providing services, or operating the specific facilities inspected.

8. Opening Conference

An opening conference of one-hour duration was held to provide background briefings in order to familiarize all participants with essential aspects of the practice inspection, as well as to update the declarations and answer questions from the inspection team.

9. Orientation Tour

As this was the first visit to the facility by some of the participants, a thorough tour of all areas of the facility, including remote storage and waste disposal sites, was provided for all inspectors and observers. Due to the distances to the remote sites, over four hours was required. At the end of the tour, an inspectors' meeting was held, at which initial plans were reviewed and revised and assignments made for more specific investigations by groups of inspectors.

10. Preparation Facilities

The preparation facilities for synthesis of organic chemicals were closely examined. There were five fumehoods within the single small-scale facility suitable for toxic synthesis at the levels of schedule 1 chemicals, although it was claimed that only two would normally be used for this work. An additional nine similar individually ventilated hoods were found to be present in other areas of the establishment, although not all had quite the same protective capability. It was clearly observed that systems for continuous operation were not available and that all reaction vessels used in synthesis within the facility were less than ten litres in size. In fact, for safety reasons, glass reaction vessels were normally restricted to five

litres or less, and those used in supertoxic lethal chemical or schedule 1 preparations were restricted to two litres or less in size.

11. Records Audited

The records examined included those showing the preparation, storage and transfer to research programs of all schedule 1 chemicals. Precursor inventories were also examined, as were purchase records relating to operation of the facility.

12. Sampling

Two samples were taken and analyzed in order to test procedures. One was from a container of a schedule 1 chemical in storage and the other from a container of decontaminated waste.

13. Analysis

A wide range of automated analytical techniques were available at the establishment, including infrared, gas-liquid chromatography, high-pressure liquid chromatography, nuclear magnetic resonance spectroscopy and mass spectroscopy. The analytical facilities of the establishment were not included in the single small-scale facility as defined for trial purposes, but full access was provided to inspectors as specified in the facility agreement. The complete range of analytical procedures was made available for use by the inspectors as required. The two samples were analyzed using gas chromatography/mass spectroscopy (GC/MS) and spectra were compared with electronically stored libraries including the NBS library and data from the Finnish blue books. Sampling and analysis of each sample took approximately one hour.

14. Documentation of the Inspection

Still photographs were taken by DRES personnel as required by the inspectors. The photographs included most operations carried out by DRES for the inspectors, e.g. sampling, sample transportation and analysis. Photographs were also taken at the remote locations.

15. Closing Conference

A brief evaluation of the trial involving all participants was held during the closing conference. All outstanding questions were resolved.

16. Anomalies

A few minor discrepancies were identified during the practice inspection, but all were easily resolved. None were deliberately introduced.

17. Report of the Inspection Team

The inspectors' report was largely prepared during the inspection. Some general sections were written by the team leader at the operations base as the inspectors were carrying out specific tasks. Other items were contributed by the groups of inspectors that carried out various aspects of the inspection. The draft report was reviewed by the inspectors prior to departure, with final editing occurring off-site the following week.

18. Impact on Facility Operations

Preparation time for the facility, including planning sessions and preparation of declarations, was spread out over several months and involved mainly the efforts of a single staff member. The practice inspection itself occupied a cross-section of facility personnel for three days and involved the shut-down of a number of programs for the same period. Monetary costs associated with the inspection for the facility were not estimated.

D. RESULTS

1. Definition of the Single Small-Scale Facility

Since a pilot plant or other dedicated production facility for schedule 1 chemicals is not used or available in Canada, the section of the research laboratory at the Defence Research Establishment Suffield used for synthesis of organic chemicals, including schedule 1 chemicals, might have to be identified as a single small-scale facility for purposes of the chemical weapons convention. A description of a single small-scale facility based on this laboratory was prepared following the provisions of the rolling text

(CD/952), but some difficulties were encountered in adapting it to verification procedures.

The laboratory is not used exclusively for the preparation of schedule 1 chemicals. It is a multipurpose organic synthesis laboratory. A wide range of synthetic projects, including the preparation and purification of precursor chemicals, is normally carried out there. The activities of the laboratory also include, however, those which could be considered as functions of an SSSF - i.e., the preparation of schedule 1 chemicals. Thus, it was not possible to isolate the single small-scale facility from these other functions.

No schedule 1 chemicals are prepared within the facility at DRES for other than protective purposes, and none have been transferred out of DRES to other locations, either nationally or internationally. Schedule 1 chemicals prepared in the facility have been transferred, however, to other areas of the establishment for consumption in research programs on chemical protection. For trial purposes, and in keeping with the apparent intent of the rolling text, the remaining sections of the DRES research establishment were not included in the declared single small-scale facility. It might be noted that, if a research laboratory such as that at DRES is declared an SSSF, then movement of schedule 1 chemicals for use in other locations in the research establishment can be considered as a transfer.

In applying the model for an agreement relating to single small-scale facilities to the laboratory setting, it was found that some sections of the model could be adapted without difficulty, while others could not. In many ways, the model was more appropriate for a dedicated facility housed in a separate building.

For instance, in the model under section 1(b), "detailed technical information", requirements for site information including pipework, roads, fences, mains electricity, water and gas points did not apply to the synthesis laboratory, nor did nearly all of the flow and process information requested. The provision of lists of equipment for a laboratory filled with research items was found to be very difficult and, in any event, was judged to be of little use for verification. (Glass reaction flasks, common to all organic laboratories, are expendable items and are not normally recorded in inventories.) In addition, the projected use of monitoring systems, while possibly having some value in a dedicated facility, was judged to be of no value whatsoever in a laboratory where a wide variety of similar but unrelated activities are being carried out. As a result, these sections of the model were disregarded during planning for the trial inspection.

The experience of this practice inspection clearly showed that the characteristics of a single small-scale facility, as set out in Annex 1 to Article VI, and particularly as augmented by the model for an agreement relating to single small-scale facilities, need further clarification for organic research laboratories not dedicated solely to the production of schedule 1 chemicals.

2. Facility Agreements

The contents of a facility agreement were found to be of utmost importance. It must not only contribute to the mandate for the inspection but also spell out rights of access, use of equipment, special inspection procedures, sampling and analysis, rights and privileges of both the facility and the inspectors, emergency measures, etc. It must even direct administrative arrangements, including transportation, meals and accommodation. Guidelines to the preparation of these agreements must therefore be quite clear, and a considerable level of detail must also be included if disputes are to be avoided.

Due in large part to difficulties in adapting the model provided in Appendix II to CD/952 to a laboratory facility, a complete facility agreement was not written for the practice inspection, and some disagreements over detail arose during the trial. The preparation of the agreement will involve considerable negotiation among the inspectorate, the facility management and the National Authority, and could be a time-consuming process. It must be initiated and largely completed at the initial inspection or at subsequent additional visits arranged specifically for this purpose. Until an agreement is signed, subsequent routine inspections will be unnecessarily difficult.

During the preparation of the facility agreement, it was thought useful to transform the models for an agreement into pre-prepared, standardized forms, which could be filled out, as appropriate, during initial inspections to make the work of the inspectors easier. An attempt was made to do this for the single small-scale facility model and seemed to work well. However, in order to make the form complete, some details not found in the model had to be added.

3. Declarations

During the preparation of declarations for the practice inspection, it became apparent that some difficulties exist in the declaration requirements for single small-scale facilities found in Annex 1 to Article VI. At present, there is no requirement to provide

information on the schedule 1 chemicals or their scheduled precursors that are stored at the single small-scale facility at time of the convention's entry into force. It was found that such data are essential in order to provide a baseline for the initial inspection. This would assist in negotiating a facility agreement rapidly, especially regarding requirements for access, frequency of inspections and other aspects of the agreement. The initial declaration should provide most of the information currently required in annual declarations.

In addition to the annual declaration of the previous year's activities after the end of the calendar year, Annex 1 to Article VI requires a separate declaration prior to the end of the calendar year regarding projected activities and anticipated production. The value of this process for a research laboratory is hard to assess because of the difficulty in predicting the needs of research programs for a year in advance. Such information will be inaccurate at best. But it could give rise to apparent anomalies during inspections, leading to unnecessary disputes. This declaration, then, was judged to have no value in the practice inspection, and it is difficult to perceive how such information would assist in verification, except possibly to suggest a need for a change in the frequency of routine inspections. The requirement for this declaration should be deleted for a laboratory facility. Alternatively, a projection of yearly activities and production quantities could be added to the declaration of activities for the previous calendar year, with the understanding that such projections are subject to change.

Finally, a requirement to declare formally the intent to operate a single small-scale facility should be added to the initial declaration in order to make this process complete.

4. Frequency and Duration of Inspections

In a facility where schedule 1 chemicals are produced for legitimate purposes, there will be no need to verify their presence or absence. A similar situation will hold for their precursors. Verification activities will concentrate primarily on confirmation of data contained in the declarations and that the facility is not capable of producing much more than one metric tonne of schedule 1 chemicals per year. In a laboratory adapted to the functions of a single small-scale facility, schedule 1 chemicals will probably be prepared only when needed. The quantities produced should not significantly exceed requirements, and thus the amounts retained in storage could be quite small. The threat posed by such facilities to the Convention should be insignificant, and frequent inspections will not be

necessary in the absence of other information that might increase the level of concern. The Canadian experience would suggest that annual inspections should be appropriate for this type of facility. Only when quantities approach the one metric tonne limit should more intense verification measures be considered.

After the initial visit has been carried out and a facility agreement completed, verification activities during subsequent routine inspections at a laboratory-type single small-scale facility should be straightforward and brief. Although the practice inspection took two-and-a-half days to complete, much of this time was required because activities were being attempted for the first time. It was estimated that a repeat inspection could be carried out in one working day or less by a team of experienced inspectors.

5. Travel Time

For the practice inspection, the inspectorate was not required to bring equipment so that travel by commercial transport was considered to be appropriate and cost effective. Most of the inspectors left their homes in Eastern Canada early in the morning (equivalent to point of entry), used a commercial flight to Calgary, and then proceeded to Medicine Hat by ground transport provided by the facility. Arrival was late in the afternoon. No inspection activities were possible during the evening and night hours when the facility was closed. The inspection officially commenced the following morning after the opening meeting. The time period from departure in the East to initiation of the inspection was about twenty-six hours. This was under good conditions, with no delays en route (although the road from Calgary was closed by a snowstorm shortly after the inspectors had passed). Few other timing options were available using commercial air travel; a reduction of the time involved would have required night time travel, highly expensive dedicated aircraft, or night operations. This experience illustrates the difficulty in attempting to adopt procedures designed to shorten the warning time for surprise inspections and the potentially high costs of such measures.

6. Inspection Team

A total of seven inspectors were utilized for the practice inspection. This was a larger group than would normally be needed for a routine annual inspection at a single small-scale facility of this type following completion of the initial inspection and the inspection agreement. Five inspectors would be adequate, or even four if the team leader could also act as an inspector. The

development of standard formats for reports would help ease the burden. It was agreed that inspectors should operate at least in pairs in order to provide corroboration of all observations, although the team leader could pursue some functions alone at the operations centre.

For the inspection of a single small-scale facility, the practice inspection showed clearly that the inspection team must possess a variety of skills. At least one must be highly knowledgeable in sampling and analytical techniques, and one or more should be thoroughly trained in areas related to record keeping, bookkeeping and purchasing procedures. Others should be skilled in organic chemistry or in process engineering. Knowledge of general practices in organic synthesis laboratories is essential, and similar knowledge about pilot plant processes would be desirable.

The inclusion of support services with the inspection team must be considered. During the practice inspection, all such services were provided by the facility. However, in a real international inspection, this may not be possible or desirable. It could be necessary to have interpreters as part of the inspection team. The inspectors should have the authority to record photographically or otherwise the inspection process, and portable computers should be available to prepare records and reports.

Guidelines for the composition of inspection teams in terms of numbers, skills, training and experience should be worked out during the preparation period.

7. Inspection Equipment

The practice inspection indicated that very little equipment would be needed for routine inspections at a single small-scale facility. If the facility is located at a laboratory, adequate analytical facilities and safety equipment should be available. The trial showed that such facilities and equipment could successfully be used for verification so long as a proper relationship exists between the inspectors and the facility. Requirements would be determined at the initial inspection and spelled out in the facility agreement. Photographic and video equipment must be under the control of the inspectors and may have to be brought with them. A portable word processing system and small printer for preparing reports would also be useful.

8. Security of Information

During the practice inspection, there was no hesitation on the part of the facility management to allow access by the inspectors to all areas relevant to

verification of the single small-scale facility, including neighbouring laboratories with similar fumehoods, roof stacks, waste disposal areas, analytical facilities, storage facilities and remote field sites. The tour and other inspection procedures involved a thorough examination of the areas visited; however, because it was a typical laboratory, there was little to be seen that was unique or sensitive, and the consequences of these intrusive measures were not found to be controversial.

Photography was found to be most important for recalling observations; however, in some states or facilities, photo and video records may be considered sensitive if taken outside the facility. It may be necessary to store such records at the facility in secure sealed cabinets between inspections, but they would normally be most useful to inspectors during preparations for the next inspection. Arrangements with the facility management for the handling of photographic records must be included in the facility agreement.

Generally little or no classified information was found to be exposed during the practice inspection of the simulated single small-scale facility. No classified commercial information was involved. (The main point at which classified information could have been divulged would be through examination of the purposes for which the schedule 1 chemicals prepared in the facility were used.)

9. Production Capacity

The determination of production capacity was found to be a key element in verification at the facility. In practical terms, the factors which limit the quantities of schedule 1 chemicals made in a synthesis laboratory are the number and quality of the fumehoods and the size of the reaction vessels that can be used in them. From information provided in the initial declaration, and given the safety regulations in force, it could be calculated that the maximum yearly production from a full-time, dedicated process in the facility would be no more than sixty kg per fumehood. It was apparent that this type and size of facility was not a significant threat to the objectives of the Convention. Further verification then became a simple matter of confirming the data provided in the declarations.

With reference to Annex 1 to Article VI and the size of reaction vessels, the capacity of vessels used in a research laboratory-type facility could easily be restricted to ten litres, although the DRES facility uses vessels of considerably smaller capacity. Typical pilot plant vessels, as might be used in a dedicated facility, however, can range up to several hundred litres. A one-hundred-litre limit

imposed on them might be inconvenient, but it could probably be accepted. A facility with vessels of this size would pose a much more serious risk to the Convention, especially if several such vessels were available. Inspections would need to be more frequent and at unpredictable times with a minimum of warning. Sampling and analysis of waste products could become important for verification. The purchase or possible synthesis of precursors would have to be monitored carefully. A trial of a dedicated single small-scale facility, possibly a pilot plant, should one be available somewhere, would be most useful in testing these factors.

10. Production Quantities

Perhaps the most useful means of monitoring production quantities would be through inventory control of precursor chemicals. As most precursors are obtained from commercial sources, all schedule 1, 2 or 3 precursors coming into the facility should be identifiable by quantity and lot number. Usage of these precursor chemicals at the facility should be recorded by lot number, quantity and date. A similar record should be maintained by the facility when precursor chemicals are prepared on-site or obtained from non-commercial sources. These procedures would allow a running balance to be maintained, and the information could be compared with data from commercial sales. In industry, a system of audit trails for chemicals is normally required by law; similar procedures could be required for single small-scale facilities under the chemical weapons convention. In view of the adoption of Laboratory Information Management Systems (LIMS) by industrial laboratories, this might form a model for a system to be used in single small-scale facilities as a means of aiding verification.

11. Sampling and Analysis

During the practice inspection, it became apparent that the taking and analysis of samples at a single small-scale facility may add little useful information to the verification process. Schedule 1 chemicals and their precursors were legitimately present and required only a few random checks to confirm their identity. However, it was considered essential that the inspection team retain the right to have any sample it wished analyzed, either on-site or at a designated laboratory. Procedures for sampling and analysis must be clearly spelled out in the facility agreement.

One possible role for sampling at a single small-scale facility would be to demonstrate, by the analysis of waste products and possibly air and soil samples, that larger quantities of undeclared schedule 1 chemicals had not

been prepared recently at the site. For instance, it was observed that waste water from DRES (including that from the single small-scale facility) was delivered directly to an isolated two-pond lagoon purification system. While samples were not taken from the lagoon during the practice inspection, it was estimated that analysis of the water would likely show the presence of degradation products if militarily significant quantities of schedule 1 chemicals were being prepared in the facility. Baseline measurements, however, would be required.

All sampling and analysis for the practice inspection was carried out by facility personnel. To overcome the possibility of deception, an identifying "spike" was added by the inspectors and the process observed continuously. Thus, if done with care, samples can be taken and accurately analyzed by the facility. However, it was also quite apparent that without the presence among the inspectors of an analytical chemist thoroughly knowledgeable in the techniques and equipment being used, the inspectors would not have been aware of any inaccuracy in the analytical results, should the facility scientists have attempted a cover-up.

This problem might have been partially overcome by the removal of samples to neutral off-site laboratories for analysis. Apart from the extra skills, time and effort required, the transport of highly toxic samples is a hazardous process and should be avoided if possible. Nevertheless, there must be the capability for removal of samples off site. Analytical equipment could have also been brought to the site by the inspectors, but this should be done only if cost effective. This would seem to be unlikely for the few samples that may be needed during a routine inspection of a single small-scale facility. The use of analytical instruments belonging to the facility would appear to be the best option despite the opportunities for deception.

12. Inspection Report

An extensive inspection report did not appear to be needed, at least insofar as routine verification of a single small-scale facility of this type is concerned. The initial report might be more extensive, but once it is agreed that the facility is in compliance, for subsequent annual inspections, reports should deal mainly with confirmation of declared data and the effects of any changes at the facility. In most instances, it should be possible to report on these in a few paragraphs.

Inspectors, as they gain experience, can be expected to develop standard formats to shorten the

reporting process. This should, in most circumstances, allow completion of reports before the inspectors leave the facility. It should be possible to arrange a series of trial inspections at various types of sites so that the newly formed international inspectorate can gain experience and work out the most suitable approaches to procedures, the preparation of reports, and the development of facility agreements.

E. CONCLUSIONS AND RECOMMENDATIONS

The Canadian practice inspection successfully demonstrated the feasibility of carrying out routine verification inspections at a single small-scale facility preparing schedule 1 chemicals for protective purposes without compromising sensitive or secure facilities, equipment or operations. All aims of the trial were achieved, although some difficulty was encountered in adapting the single small-scale facility model to a research laboratory site. The practice inspection was sufficiently realistic to test the practicality of inspection procedures, and the results provide excellent guidance for further negotiation of the draft Convention on Chemical Weapons. A number of factors emerged that illuminated practical features of the inspection procedures. Some of the results bore directly upon entries in the current rolling text (CD/952), suggesting useful modifications and improvements.

Based on the results of the Canadian practice inspection, the following recommendations can be made for changes or improvements in procedures that may affect the rolling text.

a) The characteristics of a single small-scale facility set out in Annex I to Article VI and developed further in the model facilities agreement in Appendix II are not entirely appropriate for a facility which consists of a multipurpose organic synthesis laboratory. Further trials of such facilities are required, especially at dedicated sites, and the model for an agreement relating to single small-scale facilities should be reviewed. Pre-prepared forms for facility agreements could simplify the work of inspectors and should be developed.

b) The proposed installation of on-site monitoring systems, while perhaps having some value with respect to a dedicated synthesis or pilot plant facility, is not relevant to a multipurpose laboratory facility. This concept should be reviewed as to its being mandatory.

c) The initial declaration for a single small-scale facility should include a declaration of intent to operate such a facility, as well as most of the information

currently required for annual declarations. In particular, it should include a statement of the quantities of schedule 1 and schedule 2 chemicals possessed as of entry into force of the Convention, in order to provide a basis for the initial inspection and preparation of the facility agreement.

d) The requirement to submit annually a separate declaration regarding projected activities and anticipated production is unnecessary for a multipurpose laboratory facility. This provision should be modified.

e) A laboratory-type single small-scale facility would pose a much less serious risk to the Convention than a dedicated facility and would therefore require less frequent inspection.

f) Guidelines are required for the composition of inspection teams in terms of numbers, skills, training and experience. These should be worked out during the preparation period.

g) The most useful means of monitoring the quantities of schedule 1 chemicals produced at a single small-scale facility may be through inventory control of precursor chemicals. A system of audit trails for chemicals and laboratory information management systems should be adopted by the facility managers to assist in verification.

h) A series of trial inspections at various types of sites should be arranged to gain experience and work out the most suitable approach to implementation of verification procedures.

CONFERENCE ON DISARMAMENT

CD/988
CD/CW/WP.291
20 April 1990

Original: ENGLISH

LETTER DATED 19 APRIL 1990 FROM THE PERMANENT MISSION OF INDIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A DOCUMENT "REPORT OF THE NATIONAL TRIAL INSPECTION CONDUCTED BY INDIA"

I have the honour to enclose a document entitled "Report of the National Trial Inspection conducted by India". I would be grateful if this could be circulated in the Conference on Tuesday, 24 April 1990, as a CD document.

(Signed) ANIL WADHWA

REPORT OF THE NATIONAL TRIAL INSPECTION CONDUCTED BY INDIA.

Introduction

This document presents the results of the National Trial Inspection that was carried out during three visits to the production facility of Searle India, Bombay, a multi-purpose unit manufacturing a variety of drugs. The facility of M/s Searle India was selected for trial inspection purpose. The facility is manufacturing diisopyramide phosphate from DIPC alcohol which is initially converted to DIPC hydrochloride (DIPC Hcl) and then to nitride pyramixetosylate. Another product, propantheline bromide is also produced by esterification of xanthanoic acid with DIPC Hcl. The feedstock, DIPC alcohol and the chemical DIPC Hcl are listed in the section of Schedule [2] chemicals.

The inspection served to test the adequacy of the system of verification provided in the draft Chemical Weapons Convention, in the context of its objectives to ensure 'A'. The inspection also provided an opportunity to test the degree of intrusiveness required to conduct the verification procedures even while protecting commercial confidentiality.

The results of the Indian national trial inspection presented below, conform generally to the format contained in document CD/CW/WP.213.

A. GENERAL APPROACH

1. Objectives of national trial inspection

The objectives of the National Trial Inspection were those set forth in document CD/CW/WP:213.

2. Provisions in the draft convention under which the trial inspections took place

These were in accordance with the provisions contained in the Annex to Article VI[2] of the rolling text of the draft Chemical Weapons Convention.

3. Type of on-site inspection

An initial visit by the inspection team was made on April 8, 1989 for familiarization purposes, for obtaining information relevant for planning the future verification activities at the inspection, to determine the precise inspection plan and to work on the facility attachment agreements. A second visit by a very small

group of inspectors took place on July 4 and 5, 1989 in order to finalize the facility attachment agreement. The final inspection took place on August 9 and 10, 1989.

4. Advance information

a) Declarations

At the time of the initial and second visit, the firm made the relevant declarations concerning the production during the past 5 years of the above mentioned chemicals and made available all other relevant information required by the inspection team.

b) Agreement on inspection procedures

The team negotiated and finalized a facility attachment based on the "Model for an agreement relating to facilities producing, processing or consuming chemical listed in Schedule [2] (CD/874 pp 125-128), with which the management of the private sector firm, Searle India Ltd, did not have any problems.

5. Type of facility inspected

The facility inspected is a multi-purpose plant manufacturing specialty chemicals related to bulk drugs and intermediates.

6. Types of declared activity at the facility.

The facility handles and produces small volume of Schedule [2] chemicals i.e. maximum 1.6 MT per year. These chemicals are stored along with other solvent and chemicals. The basic raw material, DIPC alcohol, is imported once or twice a year and consumed in a short period of 4 to 8 batch runs, as and when there is demand for the drugs.

7. Actual activity at the facility

At the time of the initial and second visits, the facility was manufacturing other chemical materials not related with Schedule [2] items. The inspecting team decided deliberately to schedule the final visit for a routine on-site inspection, to coincide with the batch run in which scheduled chemicals were processed and produced in order to check the efficacy of the verification process.

B. DETAILED APPROACH

1. Composition of the inspection team

The team consisted of the following persons-

i) Team Leader: Joint Secretary(Chem), Ministry of Petroleum & Chemicals, Government of India.

ii) one chemist;

iii) one chemical analyst;

iv) one chemical engineer;

v) one chemical technologist; and

vi) one auditor.

Besides the requisite technical expertise for conducting a trial inspection, the team included representatives from the Ministry of Petroleum & Chemicals, the nodal Ministry in Government of India for the chemical industry, the Ministry of External Affairs which oversees the negotiations on the draft CW Convention.

The team negotiated the inspection mandate after explaining the Chemical Weapons Convention with the company's team which consisted of the following officials:

i) Production Director

ii) Director, Research & Development

iii) Works Manager

iv) Production Manager(Chemicals)

v) Manager, Quality Assurance

vi) Production Services Manager.

2. The negotiation covered the following subjects

i) The plant area to which the inspection team should have access for routine on-site inspection, including the collection of samples for analysis.

ii) Records to be made available to the inspecting agency.

iii) Facilities and services to be provided by the company.

iv) Right of the inspectors to examine the operations of the company pursuing the identical processes.

3. Inspection equipment

The portable equipment carried by the inspection team for the routine inspection included liquid and gas samplers, an auto-titrator, a gas-liquid chromatograph, PH meters and refracto meters. All the other technical equipment used was provided by the company from its in-house R&D laboratory.

4. Activities prior to the arrival of the inspection team on site.

The date of the routine on-site inspection was chosen on the basis of mutual convenience and after confirming that the batch runs of Schedule [2] chemical would be undertaken by the company on the said dates.

5. Advance preparation on site

The Managing Director of the Company informed the team leader of the arrival of the imported DIPC alcohol and the likely dates of the production schedule. The visit was undertaken on a day when a new batch was taken up for production.

6. Escort and points of contact arrangements.

The company provided adequate staff to act as escort as also to answer the routine queries made by the inspecting team. The company designated certain officials as the contact persons for the duration of the trial inspection.

7. Other participants

A representative from the Disarmament Unit of the Ministry of External Affairs, Government of India was present during the routine inspection.

8. Duration of initial visit and inspection

- Initial visit - one day, (5 persons).

- Preparatory facility attachment - two days, (3 persons).

- Actual inspection - 1 day (4 persons)

- Inspection report programme - 2 days (3 persons).

9. Measures to protect confidential information

The inspectorate discussed with the company officials the various types of confidential information which fall under the following. The four levels of classification:

a) releasable to the public

b) releasable to the States parties to the convention.

c) limited to the technical secretariat; and

d) available to inspectors only - not to be removed from the company premises.

Detailed process diagrams and documents incorporating procedures were not removed from the site.

10. Opening conference

The team leader spelt out the purpose of the national trial inspection to the members of the inspection team and company representatives. The Company's Managing Director, along with his identified officials discussed their activities at the facility and the various safety measures adopted. The opening conference lasted for about two hours.

11. Types of records needed and/or audited.

The company maintains good records of the raw materials including the imported materials. The company made available to the inspection team the following plant protection records and financial statements:

Plant production records

i) Log books, being maintained on a daily basis, showing product batch numbers in progress and kettle numbers in use of various batches of products in the factory.

ii) Production record card, maintained batch-wise, showing production of each batch, giving details of materials charged.

iii) Production report of various products, along with batch numbers, prepared on a monthly basis, giving details of monthly and cumulative production. This also gives process information.

iv) Plant information is given in the above reports.

v) Production report for individual batches of DIPC Hydrochloride and N.P. Tosylate, etc. are maintained and were made available to the inspection team.

Financial statements

Regarding receipt and issue of diisopropyl amino ethanol (raw material), the following documents/records are maintained:

1. Purchase order on the foreign supplier.

2. Opening of Letter of Credit.

3. Bill of Entry at the time of receipt of material in India, i.e. the Excise/Custom documents.

4. Railway Receipt at the time of receipt, on site, at the Searle India factory.

5. Entries in the Stores Ledger.

6. To have strict control for the use of diisopropyl amino ethanol, the following registers are maintained:

   a) Stock register of diisopropyl amino ethanol and DIPC Hcl.

   b) Note book for special enclosure inside the stores for locking/unlocking at the time of receipt and issue of the material in/from the stores.

7. As soon as diisopropyl amino ethanol is converted into intermediate products, the production department keeps a record of the same and in case the material is not used immediately, it is transferred to the stores for safe custody, as

per established procedure, and got reissued as and when required.

8. The record of products viz. diisopyramide Technical and propantheline bromide, transferred to the Searle India unit at Ankleshwar or for outside sale under Excise Gate pass, as per Excise Rules are maintained.

12. Plant orientation tour.

The orientation tour on the plant covered the total facility excepting the pharmaceutical manufacturing, packing and storage sections, as per the attached site plan vide Annexure I.

13. Inspection of areas and facility equipments

The following facility area was inspected in detail:

1. Raw material storage.
2. Chemical manufacturing and plant room.
3. Effluent treatment.
4. Drying annex.
5. General store.
6. Incinerator shed.
7. R&D Centre.
8. Quality Control Lab.

At the time of the initial familiarization visit, the inspection team had also been taken to the areas mentioned above. At that stage, no special area had been earmarked within the stores for keeping the Schedule [2] raw material. The team advised the Company's Management to store the Schedule [2] chemical feedstock (which is imported) in a more safe and secure location. The Company acted on this suggestion and during the routine on-site inspection it was observed that the chemical feedstock had been placed within the storage area in an enclosure especially earmarked for it and to which access was confined to authorized personnel only.

14. Inspection of areas and facility equipments.

In the presence of the inspection team, one batch was charged and the operation was followed up for the next two days by one member of the team to confirm the yield of the batch. During the inspection, the inspectors paid special attention to complete details in order to ensure that the facility was not involved in any undeclared activity. The inspection team was satisfied with the records and details made available by the facility representatives.

15. Sampling and sample taking procedure

The sampling was mainly performed by the company's personnel in the presence of the inspectors, based on the agreed areas of sampling. The samples analyzed in the company's laboratory included the raw materials, stack and effluent water samples, as also the finished products.

The company also agreed to monitor air samples at the facility during the production process as well as samples of water used for cleaning the vessels after the production of each batch.

16. Handling of samples

As per the negotiated facility attachment with the company, the inspection team supervised both the sampling and the on-sight handling of the samples. The company made available the analytical data of the identified samples.

17. Types of samples

The analysis of the samples was done by the company following a standard procedure which was discussed with the inspection team and found to be adequate for the purpose.

18. Types of analysis

During the negotiation of the facility attachment, the company agreed on the following types of analysis -

- The raw materials and the products to ensure that they were in conformity with the chemicals declared.

- The finished product analyzed as per the standard procedure.

- The air and water samples analyzed as per the statutory requirements of the State Government which were found to be comprehensive.

19. Documentation of the inspection

The basic material flow and process diagram was made available to the inspection team. A report was prepared by the inspection team based on the general data given by the company for input material and the finished product. The company management desired that the process details be considered as classified information and should not be permitted to be taken out of the premises. For this purpose, the company agreed to provide space for retaining the documents under lock and key of the inspection team.

20. Evaluation by inspectors

The following information were gathered during the visit of the evaluation team.

- The possibility of undeclared conversions between routine inspections;

- The level of accuracy of the data made available by the company.

- The various difficulties that could be encountered during the actual inspection. This aspect was discussed in detail after the inspection with the company management.

21. Closing conference

The closing conference lasted for approx. two hours and centered round the aspects outlined in Item 20. The question of level of confidentiality was discussed. The company desired that the analyses of the samples be done for the present in the in-house facilities located at the production site itself.

22. Anomalies, disputes and complications

During the inspection, there were no anomalies, disputes and complications.

23. Report of the inspection team

The report was prepared off-site a week following the inspection. The team was of the view that in the case of routine, on-site inspections, no violations were

found or no anomalies, disputes or complications existed, the format of the report could be shortened and simplified.

24. Impact of the inspection on facility operations

The inspection did not affect the normal production programme of the company.

C. SPECIFIC ASPECTS - CONCLUSIONS

1. The inspection mandate

The facility attachment was based on the understanding that it would be only that part of the facility which would be processing or consuming the Schedule [2] chemicals, which is the subject of inspection. The facility attachment was worked out on this basis and the inspection was conducted accordingly.

2. Composition of the inspection team

The team chosen for the trial inspection, excluding the team leader, consisted of the following :

- one chemist;
- one chemical analyst;
- one chemical engineer;
- one chemical technologist; and
- one auditor.

This team was found to be adequate for the national trial inspection. A large part of the time of the inspection team was consumed in verifying the records during the trial inspections, as it included total audit of the documentation relevant to the declared Schedule II chemicals. Since each batch takes approximately 60 hours, it would take approximately three working days of an inspection team to perform the inspection appropriately.

3. Inspection equipment

During the trial inspections, no inspection equipment was taken and only routine inspection was done due to the intermittent schedule of production of Schedule [2] chemicals in the facility.

4. Activities prior to the arrival of the inspection team on-site

The production and consumption of the Schedule [2] chemicals at the production site is not of continuous nature and is undertaken based on the demand for the drug in the market. This inspection was undertaken after the company confirmed receipt of the imported DIPC alcohol and their production schedule.

5. Advance preparations on site

The company arranged for a room for the opening and closing of the conference and cooperated fully with the inspection team.

6. Escort and Point of contact arrangements.

The Management of the company cooperated fully and the Managing Director himself escorted the inspection team during the routine, on-site inspection and was available for the entire duration of the from the day of the final inspection.

7. Other participants

A representative from the Disarmament Unit of the Ministry of External Affairs, Government of India was present during the routine inspection. His presence ensured familiarity of the inspection team with the draft Chemical Weapons Convention and facilitated the adoption of procedures in consonance with the guidelines for inspection elaborated so far under the Convention.

8. Duration of initial visit and inspection

The duration of the initial visit and negotiation of the facility attachment took a total of three days and the actual, routine on-site inspection took another day, with two additional days for completion of laboratory analyses, this appears be reasonable to allow for inspection of most facilities.

9. Measures to protect confidential information

A detailed discussion was held during the negotiation under the four level classification system for confidential information. Agreement was arrived on which information came under each category. Necessary arrangements were made for maintaining confidentiality during the inspection. The Managing Director of the company was particularly concerned with the level (d) concerning the information "available to inspectors

only - not to be removed from the company premises". The company provided an on-site plan of the complex and a detailed flow chart for the production of the drug on a clear understanding that it contained confidential information not to be divulged to any outsider. The company insisted that these documents should not be removed from the company site and to be returned to their Chief Chemist at the end of the inspection. The company desired that the following information be also covered under level (d) -

- The annual consumption/production;

- Purchase price of feedstock chemicals;

- Customer, buyer product reports.

10. Opening conference

Depending on the complexity of the operation, the opening conference could last 60-90 minutes.

11. Types of records needed and/or audited

Conscious of this fact that the facility inspected handles Scheduled chemicals in a non-continuous manner through a batch process and that future inspection may not be possible exactly at the time when such a batch process is in progress, the Inspection Team paid special attention to the examination of documentation and material balance.

The inspection team felt that the company maintains good records of raw materials and final product. These records were well documented.

The inspection team concluded that the records examined were consistent with the company's declaration. It was satisfied that the company did not undertake production of any other undeclared chemicals and that the scheduled chemical was used for the production of drugs only in one facility. The yield, however, was persistently low since the very inception of the company and this was brought to the notice of the management. The latter explained that they are seized with this problem and are trying to find out ways and means to improve the yield.

12. Plant orientation tour

The plant orientation tour lasted for about 70 minutes and was found to be extremely useful for familiarizing

the inspection team with the physical layout of the facility.

13. Inspection of areas and facility equipment

A general inspection of the plant is necessary to enable the inspection team to understand whether the declared chemical process is being followed and whether there are possibilities of production of undeclared items. The inspection team felt that at the opening conference itself, the question of inspecting the site along with the full lay-out of the factory and the equipments positioning be discussed to make the inspection effective. The area and the facility equipment inspections are as indicated under Item B-13.

14. Inspection of operation procedures

In order to verify the declared chemical production process, it was necessary for the inspection team to be present at the time of charging of the chemicals, sampling and at the concluding stage of the reaction process.

15. Sampling and sample taking procedure

Use of sample taking devices and monitoring equipment were considered very useful to confirm the production process and the composition of chemicals under processing. The sampling procedure has to be in tune with the type of facility being inspected. Three samples required to be collected for cross-checking purposes. The sampling of the stack and effluent water would need special devices which could determine nanogram levels of the chemical in question.

The company officials stressed that while the company would cooperate in providing facilities for collecting and analyzing the samples as were available with them, the inspection team would be free to use their own methods of analysis, standards and additional equipments, if required.

16. Handling of samples

The company expressed no difficulties with regard to the method of handling of samples as contained in Item B-16. The company, however, insisted that the technical information with regard to the process details be given suitable protection and the samples drawn should be handled, keeping this in mind.

17. Analysis of samples

The ready access to the analytical procedure and availability of a good analytical laboratory is indispensable for precise analysis of samples. Before trial inspection takes place, it would be imperative to ensure that the analytical procedure, the reference samples and suitable analytical facilities are lined up for processing of the samples.

18. Types of analysis

The company, while agreeing to provide all facilities for analysis of the samples, stressed the need for confidentiality of the information.

As brought out earlier, the production of the drugs are need-based and the facility is never in continuous use. While negotiating the facility attachment, the company expressed no objection to drawing up of the samples of the feed chemicals of the final products. In order to ensure that the facility is used only for the declared chemicals, it would be necessary to arrange on-site analysis, adopting negative proof methods to ensure that at the time of inspection, other chemicals in Schedule [2] or Schedule [1] were not being manufactured.

19. Documentation

The inspection team felt it essential to consult the Management of the facility with regard to the level of confidentiality of the information before these could be released for use by various authorities. For this purpose, it would be advisable to have the inspection reports fully seen and cleared with the concerned company for further processing. This is considered imperative as the various technologies developed to manufacture products at higher efficiencies deserve protection from competitors. The inspection team noticed that the management of the facility cooperated well with them on the clear understanding that they do not run the risk of losing the confidentiality of their process know-how and other important privileged, commercial information.

20. Evaluation by inspectors

The Inspection Team felt that before undertaking the inspection, a detailed discussion amongst the team members was essential to divide responsibility amongst its members to cover the various facets laid down for

the inspection. This, facilitates the actual inspection, collection of samples, analysis of the samples, audit inspection of the various documents and the other related activities.

21. Closing conference

The closing conference was considered essential to fill in the various gaps identified during the process of the trial inspection. It is desirable to have a detailed closing conference with the designated staff of the facility.

22. Anomalies, disputes and complications

In the inspection, there was no disputes, complications and anomalies primarily because of the excellent cooperation extended by the top management of the facility. There was little chance of complication as the production and use of Schedule [2] raw materials was confined to one facility only. The abnormality identified by the inspection team, namely, the extremely low yield of the final product, is sought to be rectified by the management through concerted R&D efforts.

23. Report of the inspection team

The inspection team generally felt that the report could be prepared keeping the confidentiality aspect in mind and would suitably sub-divide the report to safeguard the confidentiality of the process. The classification would be based on the judgement with regard to the level of information which could be made public and the other which could be made available to the States Parties to the convention or to the Inspectors only during the inspection, and kept under safe custody at the facility premises.

24. Impact of the inspection on facility operations

During the inspection of the facility, there was no loss of production as it was easy to sample both the raw materials which were fed into the reactors and the finished product which became available at the end of the 60 hour cycle. There was no scope for any intermediate sample collection as the reaction was performed under closed conditions.

It was only during the routine,on-site inspection that the designated staff of the company had to spare half a day to escort the inspection team in the facility and

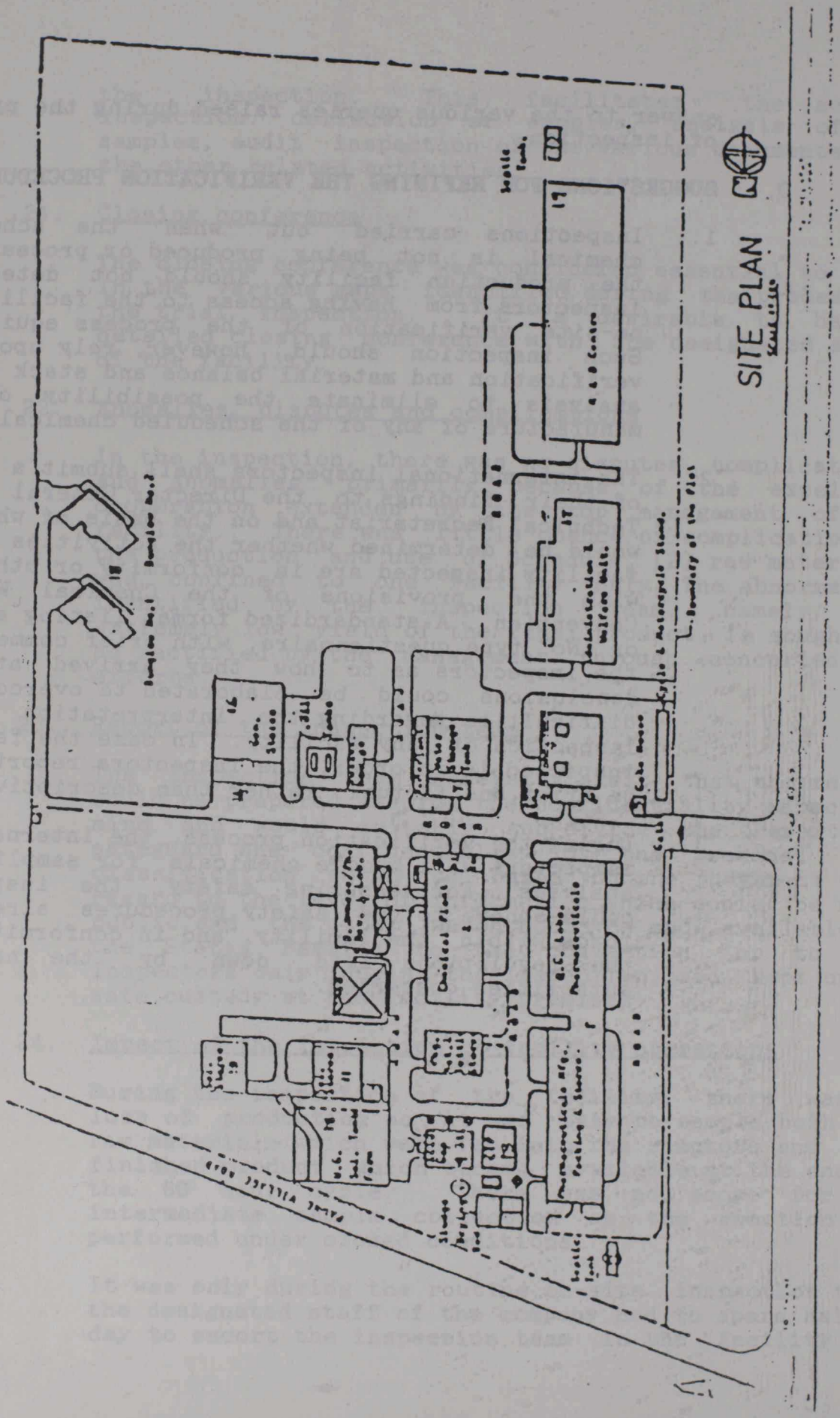
answer to the various queries raised during the process of inspection.

D. SUGGESTIONS FOR REFINING THE VERIFICATION PROCEDURES

1. Inspections carried out when the scheduled chemical is not being produced or processed in the production facility should not deter the inspectors from having access to the facility for on-site verification of the process equipment. Such inspection should, however, rely upon data verification and material balance and stack sample analysis to eliminate the possibility of the manufacture of any of the scheduled chemicals.

2. The international inspectors shall submit a report of their findings to the Director General of the Technical Secretariat and on the basis of which it would be determined whether the activities of the facility inspected are in conformity or otherwise with the provisions of the Chemical Weapons Convention. A standardized format listing a 'Yes' or 'No' type questionnaire, with brief comments by the inspectors as to how they arrived at their conclusions could be elaborated to overcome any difficulties regarding the interpretation of the inspection of any facility. In case the facility inspected is in order, the inspectors report could be brief and factual, rather than descriptive.

3. During the verification process, the international inspectors will handle chemicals for sampling and analyses. For ensuring safety, the inspectors could adhere to the safety procedures already in force within the facility, and in conformity with the regulations laid down by the national authorities concerned.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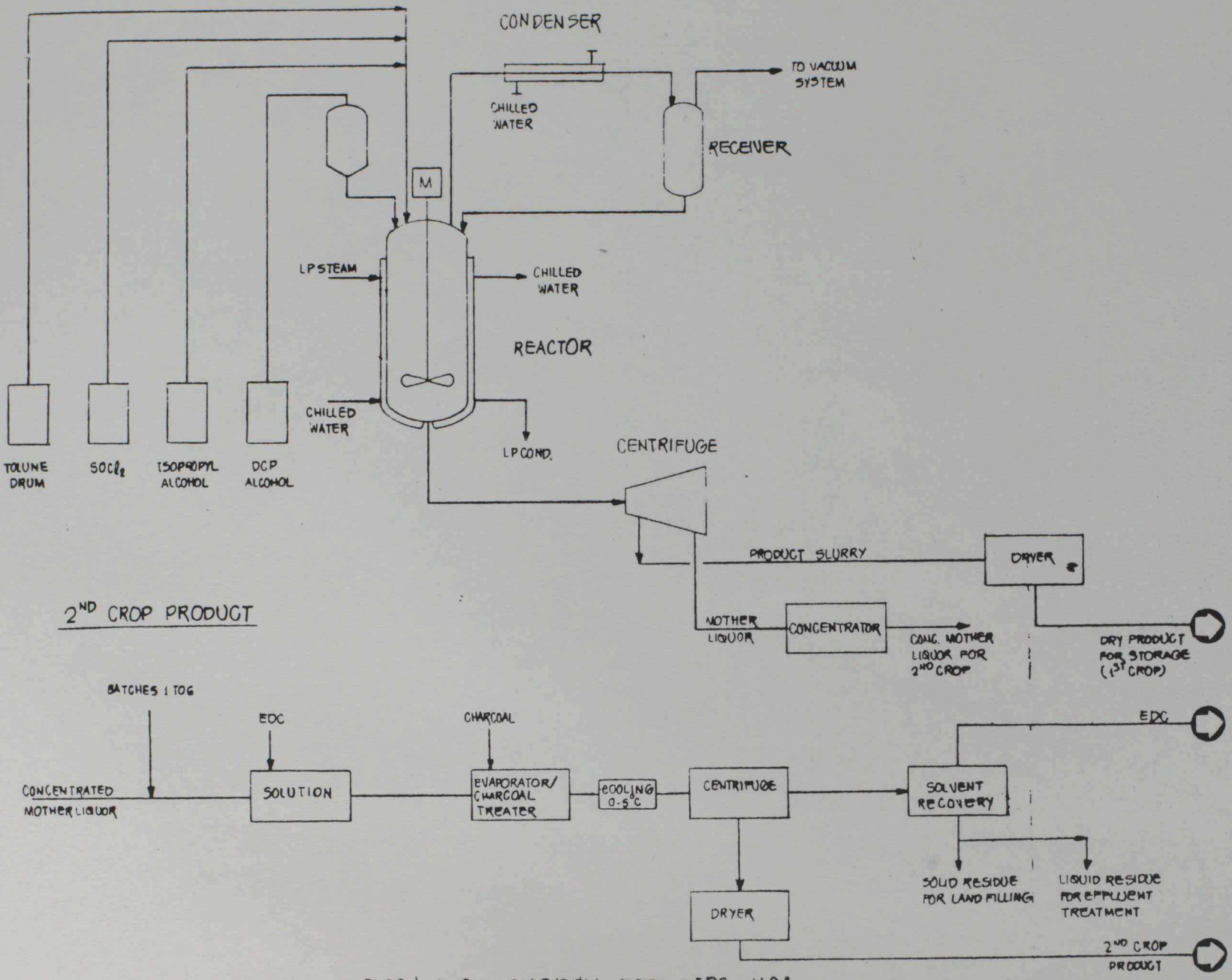
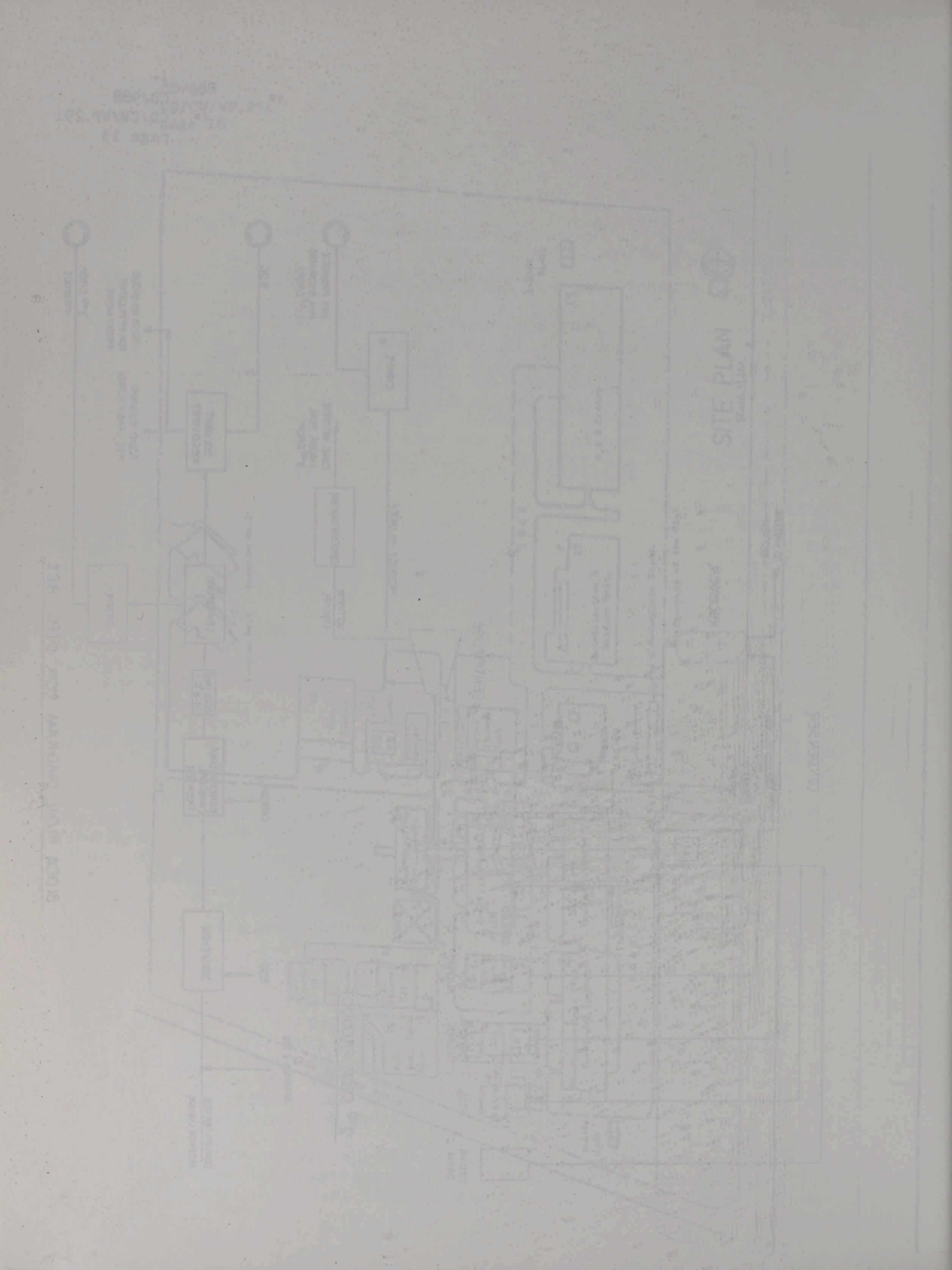


BLOCK FLOW DIAGRAM FOR DIPC - HCl



CONFERENCE ON DISARMAMENT

CD/989
20 April 1990

Original: ENGLISH

LETTER DATED 19 APRIL 1990 FROM THE PERMANENT REPRESENTATIVE OF EGYPT ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A LETTER ADDRESSED TO THE SECRETARY-GENERAL OF THE UNITED NATIONS FROM DR. AHMED ESMAT ABDEL MEGUID, DEPUTY PRIME MINISTER AND MINISTER OF FOREIGN AFFAIRS OF EGYPT, CONCERNING THE ESTABLISHMENT OF A ZONE FREE FROM WEAPONS OF MASS DESTRUCTION IN THE MIDDLE EAST AND PRESIDENT HOSNI MUBARAK'S STATEMENT IN THIS REGARD

I have the honour to transmit herewith the letter addressed to the Secretary-General of the United Nations from Dr. Ahmed Esmat Abdel Meguid, Deputy Prime Minister and Minister of Foreign Affairs of Egypt, concerning the establishment of a Zone Free from Weapons of Mass Destruction in the Middle East and President Hosni Mubarak's statement in this regard.

I kindly request that the letter be distributed as a document of the Conference on Disarmament.

(Signed): Dr. Nabil ELARABY
Ambassador
Permanent Representative

Mr. Secretary-General,

The Middle East, as you are well aware, continues to be a highly volatile conflict torn region. Even in these times, where a rising tide of peace seems to be emerging in different regions of the world, as you so succinctly remarked in your report on the work of the United Nations, 1989, " the situation of the Middle East remains a source of profound and intense concern..."

Recent developments in the region have further underscored the importance and urgency of safeguarding the Middle East from the ominous implications associated with nuclear weapons and other weapons of mass destruction.

Egypt has, for over fifteen years, called for the establishment of a Nuclear Weapon Free Zone in the Middle East. This position emanated from our unwavering committment to nuclear disarmament, as well as nuclear weapons non-proliferation, and our deep conviction that the introduction of nuclear weapons into the Middle East would have devastating consequences on the prospects for stability and security in the region, and for the maintenance of International peace and security in general.

Once again the International community, at the 43rd Session of the General Assembly, reiterated its support for the establishment of a Nuclear Weapon Free Zone in the Middle East. Resolution 43/65, adopted without a vote, inter alia highlighted certain measures and steps to be

considered by states of the region pending the establishment of such a zone foremost amongst which were; - adherence to the Treaty on the Non-Proliferation of Nuclear Weapons, and the application of International Atomic Energy Safeguards to the nuclear facilities in the States of the region.

It is worthy to note that Egypt and the other Arab States that have significant nuclear programmes have undertaken these measures. They have met the standard, universally acknowledged to be a legally binding determination not to acquire nuclear weapons, as well as the verification procedures imperative to assure compliance. Now it is of paramount importance that all States of the region adhere to the said treaty, and accept the application of fullscope IAEA safeguards to their nuclear facilities.

Egypt has also taken an equally forthcoming position and active role in disarmament efforts relating to other weapons of mass destruction, including in particular chemical weapons. It is Egypt's considered opinion that chemical weapons should be dealt with in a comprehensive and global context involving all types of Weapons of mass destruction, whether nuclear, chemical, or biological, in order to ensure international and regional security.

President Hosny Mubarak on April 8, 1990, categorically declared Egypt's support for ensuring that the Middle East become a zone free from all types of weapons of mass destruction. President Mubarak emphasized the following : -

1.) All weapons of mass destruction without exception, should be prohibited in the Middle East i.e. nuclear, chemical and biological,...etc.

2.) All States of the region, without exception, should make equal and reciprocal committments in this regard.

3.) Verification measures and modalities should be established to ascertain full compliance by all States of the region with the full scope of the prohibitions without exception.

Egypt shall continue to work with States in the region, and beyond, towards declaring the Middle East a Zone Free from all weapons of mass destruction, and the establishment of the requisite international verification measures, applicable to all the States of the region on an equal basis. It is our sincere hope that the other States of the region will be equally forthcoming in this regard, as we strive to enhance the prospects for a just, lasting peace in the Middle East,

Kindly accept, Mr. Secretary-General, the assurances of my highest consideration.

Dr. Ahmed Esmat Abdel Meguid
Deputy Prime Minister and
Minister of Foreign Affairs

CONFERENCE ON DISARMAMENT

CD/991
25 April 1990

Original: ENGLISH

LETTER DATED 23 APRIL 1990 FROM THE PERMANENT MISSION OF DENMARK ADDRESSED TO THE SECRETARIAT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING DOCUMENTATION CONCERNING MULTILATERAL DATA EXCHANGE PRIOR TO THE SIGNING OF A CHEMICAL WEAPONS CONVENTION

Enclosed please find documentation from Denmark relating to CD/828 of 12 April 1988 concerning multilateral data exchange prior to the signing of a Chemical Weapons Convention. Would you kindly circulate this information as a document of the Conference on Disarmament.

(signed) Carsten Sode Mogensen

Provision of Data Relevant to the Chemical Weapons Convention

In document CD/828 of 12 April 1988 the Federal Republic of Germany has proposed a framework for a multilateral data exchange prior to the signing of a Chemical Weapons Convention.

A multilateral exchange of data is an important confidence-building measure that will facilitate and promote the negotiations on a total ban on chemical weapons.

In order to contribute to the speedy conclusion of a Convention on Chemical Weapons, Denmark would like to share the following information. The data on chemicals listed in schedules 1-3 has been provided on a voluntary basis by the Danish Chemical Industries Association.

Type of data		Answer
1.	- presence of CW on own territory	No
	- possession of CW on territory of another State	No
2.	- aggregate number of facilities for the production and storage of CW and for production, processing and consumption of chemicals on schedules (1), (2) and (3)	None
3.	- types and names of CW agents produced	Denmark does not produce or possess chemical weapons
	- types of CW munitions stored. CW agents in bulk	Not applicable
	- names of chemicals on schedule (1), (2), and (3) produced in the chemical industry	The listed chemicals are not produced in Denmark
4.	Plans and methods for the destruction of CW including the number of facilities and the anticipated length of their operation during the 10 year destruction period	Not applicable

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CONFERENCE ON DISARMAMENT

CD/992
25 April 1990

Original: ENGLISH

LETTER DATED 23 APRIL 1990 FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING COMPENDIA ON CHEMICAL WEAPONS COMPRISING PLENARY STATEMENTS AND WORKING PAPERS FROM THE 1989 SESSION OF THE CONFERENCE ON DISARMAMENT 1/

In his plenary statement of 24 April before the Conference on Disarmament, Ambassador Shannon announced that the Canadian delegation would make available to delegations the next in our series of compendia on chemical weapons comprising plenary statements and working papers from the 1989 session of the Conference on Disarmament. As you know, similar documents were distributed earlier and, with the recent additions, these compendia now bring together documentations covering the period 1969-1989 inclusive.

I should be grateful if the necessary arrangements could be made for the distribution on the compendia to the members of the Conference on Disarmament.

(Signed): A.W.J. Robertson
Minister and Deputy
Permanent Representative
to the Conference on Disarmament

1/ A limited distribution of these compendia in English only has been made to the members of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada at Geneva.

CONFERENCE ON DISARMAMENT

CD/993
26 April 1990

Original: ENGLISH

LETTER DATED 23 APRIL 1990 FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A REPORT ENTITLED "VERIFICATION METHODS, HANDLING, AND ASSESSMENT OF UNUSUAL EVENTS IN RELATION TO ALLEGATIONS OF THE USE OF NOVEL CHEMICAL WARFARE AGENTS" 1/

In his plenary statement of 24 April to the Conference on Disarmament, Ambassador Shannon announced that the Canadian delegation would make available to delegations a report entitled "Verification methods, handling, and assessment of unusual events in relation to allegations of the use of novel chemical warfare agents" prepared by Dr. Bruno Schiefer of the University of Saskatchewan. This report develops a methodology for the examination of allegations of use of novel chemical weapons agents. While the views contained in the paper are those of the author and do not necessarily reflect the views of the Canadian Government, it is being submitted to the Conference on Disarmament in the belief that it might prove useful in discussions relating to novel chemical weapons agents during the ongoing negotiations on the Chemical Weapons Convention.

I should be grateful if the necessary arrangements could be made for the distribution of this document to the members of the Conference on Disarmament.

(Signed) A.W.J. Robertson
Minister and Deputy
Permanent Representative
to the Conference on
Disarmament

1/ A limited distribution of this Report in English only has been made to the members of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada at Geneva.

CONFERENCE ON DISARMAMENT

CD/994 */
30 April 1990

Original: ENGLISH

LETTER DATED 23 APRIL 1990 FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A DOCUMENT ENTITLED "ROLE AND FUNCTION OF A NATIONAL AUTHORITY IN THE IMPLEMENTATION OF A CHEMICAL WEAPONS CONVENTION" 1/

In his Plenary statement of 24 April to the Conference on Disarmament, Ambassador Shannon announced that the Canadian delegation would make available to delegations a document entitled "Role and Function of a National Authority in the Implementation of a Chemical Weapons Convention".

Although this document was distributed last September to those delegations attending the Canberra Government-Industry Conference on Chemical Weapons, I would be grateful if the necessary arrangements could be made for its distribution to the members of the Conference on Disarmament.

(Signed) A.W.J. Robertson
Minister and Deputy Permanent Representative
to the Conference on Disarmament

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*/ Re-submitted for technical reasons.

1/ A limited distribution of this document in English only has been made to the members of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada at Geneva.

CONFERENCE ON DISARMAMENT

CD/996
CD/CW/WP.292
12 June 1990

Original: ENGLISH

GERMAN DEMOCRATIC REPUBLIC

Report on a Trial Challenge Inspection in a Chemical Industry Plant

Introduction

In a continuing effort to foster the conclusion of the chemical weapons convention and to gather experience and technical knowledge for the future implementation of the convention, a trial challenge inspection has been conducted in a chemical industry plant in the GDR. The plant selected was the WOFATOX-factory of Chemiekombinat Bitterfeld (Chemical Combine Bitterfeld), a facility producing the organophosphorous pesticide parathion-methyl.

This is a general description of the activities undertaken and of preliminary conclusions drawn. The report is in four parts:

1. The aim of the trial inspection and its basic approach
2. Description of the inspection methodology
3. Experimental validation of the inspection methodology in laboratory experiments and in the actual trial inspection
4. Summary and preliminary conclusions

More specific information on inspection methodology and trace analysis is included in two related working papers.

1. The aim of the trial inspection and its basic approach

The aim of the trial has been to develop and evaluate an inspection methodology for challenge inspections in industrial plants, and to improve the understanding of the technical implementation of Ad-Hoc-type inspections.

Inspection procedures and time frames were not the primary targets of the trial. Nevertheless, some preliminary conclusions could also be drawn on these issues. At the core of the experiment, however, were methodical problems of the conduct of challenge inspections in industry plants. This may be of some relevance for the elaboration of an inspection manual.

The basis for the trial has been the following mandate:

"Verify whether or not at the WOFATOX-plant, part of the larger industrial complex of Chemiekombinat Bitterfeld and located in Wolfen, GDR, any organophosphorous chemical listed under schedule 1 has been produced".

The inspection aim was thus not limited to verification of compliance at the time of inspection. An unspecified retrospective compliance validation was also requested. Verification results would have the nature of a probability statement with decreasing reliability for increasing retrospective time coverage.

The approach designed for the trial challenge inspection was a "layered inspection methodology" (i.e., a step-by-step approach) with increasing intrusion triggered by the results of the less-intrusive inspection layers (phases) together with an assessment of these results in the light of the circumstances and particularities encountered. That was considered to allow an inspection team to develop its actual inspection strategy depending on the specific situation at the site. Four such inspection layers (phases) were designed. Consideration was also given to the possibility that the plant management, in case that treaty provisions had been violated, had implemented a counter-inspection strategy in order to cover-up clandestine activities. It was assumed that the inspectorate would have no specific beforehand knowledge on the plant to be inspected.

In the actual inspection experiment, only some crucial increments of the methodical concept were in fact put to test while others were validated theoretically.

2. Description of the inspection methodology

The detailed methodical approach is described in another working paper. In the following, the aims of the four phases are briefly described.

Phase 1

Detection and identification of chemicals listed under schedule 1 at the inspected plant pursuant to the inspection mandate (i.e., organophosphorous schedule-1-chemicals in this trial inspection).

This phase was considered mandatory for any challenge inspection in an industrial plant. It was also considered to correspond to the aim of an Ad-Hoc-type inspection.

Phase 2

Assessment of the plant with the aim to conclude whether or not it may pose an immediate and high risk to the objectives of the convention. Risk in this context was understood to comprise both the potential CW capability of the plant and its roughly estimated capacity in case it was assessed

capable. CW capability was defined for the purpose of this trial inspection as being made up of the following increments: "chemical capability" (i.e., the availability of requisite chemicals), "technological capability" (i.e., the availability of requisite equipment), safety features, and the overall security regime at the inspected site. A part of this phase would also be to confirm that no signs are present which might be interpreted as residues of cover-up activities at the inspected site.

Phase 3

Resolution of any anomalies which have been encountered in phases 1 and 2 with the aim to allow to conclusively demonstrate compliance with treaty provisions pursuant to the inspection mandate.

In case that not all anomalies can be resolved and that the inspection team assesses an immediate and high risk that treaty provisions may in fact have been violated, the inspection would continue with phase 4.

Phase 4

Highly intrusive inspection activities in order to conclusively demonstrate compliance, or to prove a violation of treaty provisions.

The basic approach in any of these inspection phases was to request specific facility statements and supportive documentation. The content, validity, and truth of these statements was then to be verified to the extent possible.

3. Experimental validation of the inspection methodology in laboratory experiments and in the actual trial inspection

3.1. Laboratory tests and other pre-inspection activities

3.1.1. Development of analytical methods

The analytical methods used for the trial challenge inspection were ion mobility spectrometry and gas chromatography. Transportable instruments were used in either case.

While IMS was applied for trace detection and identification of organophosphorous schedule-1-chemicals, a combination of portable GC and IMS was applied in order to validate the facility statement about the plant's actual production activities.

Schedule-1-chemicals were simulated by a nerve agent simulant having a proton affinity almost the same as that of nerve agents: diisopropyl-methylphosphonate (DIMP).

Sampling techniques and analytical methods were developed and tested in the laboratory in order to prepare for the on-site analysis of different types of samples. These, together

with corresponding laboratory results are presented in another working paper. The following conclusions were drawn for the analytical approach of the trial inspection:

1. Trace identification of the simulant used in the study was possible against a background concentration at least three orders of magnitude larger than DIMP of a number of organophosphorous pesticides.

2. Traces of the simulant remain detectable, and can in fact be identified, in material typically used as joint packing, for at least 580 hours. A method was designed to analyze DIMP traces from joints without braking them, by sucking-off ("sniffing") air from the head-space around the joint packing.

3. In collecting wipe samples from metal surfaces, approximately 1 microgram DIMP can be detected and identified against a pesticide background concentration as above.

3.1.2. Risk assessment of the pesticide plant

A methodology for risk assessment was developed in order to provide the inspection team with an objective guidance in assessing whether or not the facility may pose an immediate and high risk to the objectives of the convention, by verifying the absence or presence of unusual features at the plant.

The pre-inspection activities encompassed the feasibility testing of the application of a computer program for evaluating the "chemical capability" of the inspected plant. This computer program had originally been designed for generating synthesis strategies based on synthone substitution[1].

Conceptual preparations were conducted for the other elements of the risk assessment. These elements were:

- Qualitative assessment of the territorial features at the inspected site in order to evaluate the potential down-wind hazard for nearby inhabited areas.

- Qualitative assessment of the safety precautions taken at the site in order to identify or demonstrate the absence of unusual (as compared to best international practice in industrial plants) preparations for rapid decontamination, for protection of personnel, and/or for early warning.

- Assessment of the installed technology and equipments in order to identify or demonstrate the absence of special equipments necessary for the production of schedule-1-

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[1] The program and its potential applications for verification purposes will be described in more detail in a later working paper.

chemicals which otherwise have rare or no application in the type of plant inspected.

- Assessment of the overall security regime at the plant, in order to identify or demonstrate the absence of security features irregular for industrial plants.

3.2. The actual conduct of the trial challenge inspection

The inspection was conducted at the end of march 1990. It had been preceded by a number of in-plant tests to validate analytical techniques. What follows is a concise account of inspection activities carried out, and results thus achieved.

The inspection team consisted of:

- 1 team leader
- 4 analytical chemists
- 1 chemical engineer

For real inspections, it was assumed that additional team members might become necessary (e.g., one more chemical engineer with experience in organophosphorous chemistry, two inspectors experienced in accounting, and several more team members to secure the site).

The plant was represented by the facility operator and a representative of the management of the chemical combine. In the exercise, representatives of the Ministry of Foreign Affairs and the Ministry of Disarmament and Defence participated as observers.

Several procedures and inspection elements of a challenge inspection were not actually conducted in the trial. The initial briefing was not in fact carried out in the actual trial itself, but was an element of the pre-inspection preparations to develop technical methods and concepts. The trial took one day, not counting pre-inspection activities.

3.2.1. Analysis of environmental and other samples immediately after arrival at the plant

The team conducted a quick visual tour of the site and selected the following points for prompt analysis:

- Air samples: taken outside the plant building, inside the building, and close to reaction vessels, joints, temporary storage tanks, etc.;
- Wipe samples: taken from reactor surfaces close to valves, joints, and reactor in- and outlets

No IMS signals of the simulant used (or in fact of any other chemical listed under schedule 1) were detected in the samples. Proper functioning of the instrument was confirmed by parallel checks with insertion of a diffusion tube containing DIMP into the sampling pipe. The method applied for sampling had been validated beforehand in laboratory

experiments, as had been the possibility to identify residues at trace level after prolonged periods of time.

3.2.2. Request of a facility statement on the non-production of schedule-1-chemicals and subsequent verification

The manager was requested to declare whether or not the plant has produced, or had done so in the past, any of the chemicals listed under schedule 1. After compliance with that request, he was asked to furnish a technological scheme showing the lay-out and pipe-network of the plant in order for the inspection team to identify relevant sampling points for chemical analysis. That scheme also included a list of installed equipment.

The details of sampling points so selected, the justification of that selection, and the corresponding analytical results are described in another working paper. The results were in conformity with those achieved in the initial checks described above. It is worth mentioning here that for the analytical technique used to verify the absence of organophosphorous schedule-1-chemicals (IMS), sample duplication was usually not considered feasible because the measurement was typically performed by head-space sampling directly into the instrument inlet system. Sample duplication could, however, be done in case of positive signals when additional samples would have to be taken for confirmation analysis by an independent trace-analytical method (e.g., mass spectrometry) preferably to be carried out at a stationary laboratory. Another feature to be mentioned here is that samples were in most cases collected by the inspectors themselves given the nature of the sampling techniques applied (wipe samples, dust samples, air samples, sniff-test). The exception was a sample taken from the interior of a reaction vessel. That sample was taken by the facility operator on request of the inspectors and under their supervision.

The facility management was also requested to declare the actual production at the plant and the chemicals present at the site as starting materials, intermediates, and final products. These data were confirmed by IMS and GC analysis at points selected by the inspection team.

3.2.3. Risk evaluation

The facility management was requested to provide answers to the following questions, and submit the following documents/materials:

- state the internal volumes of the production units (reactors, storage tanks for final product and intermediate chemicals, etc.);
- declare whether or not the plant is separated (physically, separate supply lines for chemicals, separate waste/effluent treatment, etc.) from the remaining complex;

- declare whether or not the plant has taken special precautions against chemical accidents, and describe these in a general way if applicable;
- declare whether or not the plant uses or produces chemicals listed under schedules 2 or 3 of the convention; If so, which chemicals are used, for which purposes, and how much per annum;
- declare whether or not any of the following equipments is installed in the plant: (the list used for this purpose was drawn from annex 2 of the report on the National Trial Inspection of Australia, CD/910 of April 4th, 1989, page 21), and give a justification if applicable.

In the further course of the inspection the following activities were undertaken:

1. Computer evaluation of the "chemical capability" of the inspected plant

A computer program was used to assess whether or not a production of schedule-1-compounds is chemically possible with the material present at the plant. Given the nature of the plant and the chemicals used there, the expected positive result was computed.

Yet, there was no synthetic path computed with the chemicals (starting chemicals, intermediates, final products) available at the plant which would have allowed to produce a schedule-1-chemical in a one- or two-step synthesis and without access to additional chemicals not present at the site during the inspection. Some of these chemicals might, of course, be accessible from other factories at the complex. This was not however verified during the inspection.

2. Visual inspection of the plant

A close visual inspection of the plant was conducted in order to qualitatively verify data provided by the management of the factory and to gather relevant information for completion of the risk assessment as briefly described above. The following observations were regarded relevant in this respect:

- The plant has no automatic alarms or sensor arrays for highly toxic chemicals installed.
- The plant is using equipment which would not have allowed to provide the leakage-tightness necessary to produce supertoxic-lethal chemicals if plant personnel was not operating under full protection (also validated by analytical results in the plant area).
- The plant's waste-water treatment system would be unsuited for cleaning-up waste streams from nerve-agent production.
- The plant's effluent-gas cleaning system was also considered unsuited for the purposes of nerve agent production, a usual reactor ventilation system is operated.
- The equipment used at the plant would not allow to process highly corrosive materials (such as HF).

- No preparations were detected for a rapid clean-up or decontamination of the factory area or the interior of the plant.
- On-site preparations for chemical accidents (emergency gas masks etc.) were those normally to be expected at an industrial chemical plant of the type inspected.
- The plant was not separated from other factories of the complex (i.e., no plant-specific security regime, no separate supply lines or waste/effluent transportation and treatment).

3. Given all these data, the inspection team concluded that the plant's chemical supply, technological and safety lay-out, and security regime were not to be considered well-suited for a production of organophosphorous schedule-1-chemicals without major modifications. It does not pose an immediate risk to the objectives of the convention.

3.2.4. Inspection activities in order to rule out attempts to cover-up previous activities by plant clean-outs or modifications

As a basis for a close visual inspection in order to confirm the absence or detect the presence of attempts to cover-up prohibited activities at the factory, the inspection team could make use of the most recent revision of the plant schemes available which dated from 1984. Several minor modifications had been implemented in the meantime without being recorded in these technological schemes.

The purpose of that visual inspection was to find traces of recent modifications and/or clean-up activities at the site (e.g., residues of extensive cleaning operations, of decontamination agents suitable for nerve agent detoxification, visible signs for recent replacements of certain equipments, signs for replaced joint packings, etc.). There were no signs of unusual and extensive recent cleaning or decontaminations operations in the plant area and on surfaces of reactors and other equipments. No other signs/traces which could be interpreted as residues of cover-up attempts were detected. Given the time frame presently considered for challenge inspections and the extensive effort which would have been necessary to clean-out, decontaminate and re-start the inspected factory, the members of the inspection team felt absolutely confident in their conclusion that such attempts could be ruled out.

3.2.5. Inspection results

1. At the time of inspection, no traces of schedule-1-production could be detected at the site. The team's ability to do so was demonstrated by validation tests using the model compound DIMP. A methodology was applied to exploit memory effects in a plant in order to identify, at trace level, former production activities.

2. An assessment was conducted of the plant's potential risk to the objectives of the convention using a combination of different methods. Without modifications, the plant was found not to pose an immediate/high risk to the objectives of the convention.

3. The plant was scrutinized for traces of recent clean-outs or replacements in the technological lay-out which might point to cover-up attempts. No such traces were detected. No further inspection activities were considered necessary in order to conclude the inspection.

4. Summary and preliminary conclusions

1. A phased (layered, step-by-step) inspection approach for challenge inspections in industrial plants has been designed and partly tested which, in the assessment of the participants of the verification experiment, would allow for a sound conduct of such an inspection based on the principle of using the least intrusive verification methods possible. The participants in the exercise strongly felt a necessity for an as flexible approach as possible for the conduct of challenge inspections in industrial plants.

2. It was possible in laboratory experiments and in the actual inspection to demonstrate the feasibility of exploiting memory effects in a chemical plant in order to identify residues of former production at trace level. Contamination can be expected at certain surfaces, in so-called dead-spaces in the plant, in materials with a certain tendency to adsorb or absorb organic chemicals such as those typically used as joint packings, or in structures having a certain porosity such as concrete, dust, etc.. Analysis can be carried out in a non-intrusive way that would usually not interfere with normal plant operations.

3. A concept was tentatively developed to qualitatively evaluate the risk that a facility might pose to the objectives of the convention. The concept was successfully applied in the trial in order for the inspection team to decide on the level of intrusion actually necessary for implementing the inspection mandate.

4. Based on the experience gathered in the inspection, the participants of the trial inspection concluded that sufficient time should be available for an inspection team to familiarize itself with the basic lay-out and essential details of a plant in order to identify valid sampling points and to properly plan other inspection activities. This has to be taken into due account in the design of inspection procedures and time frames of **Ad-Hoc** as well as challenge inspections in industrial plants.

5. At several stages during the inspection, the inspectors had to verify information which the facility management considered confidential. This was especially true of some quantitative data used in the risk evaluation of the plant design and of some details in the facility schemes. Yet, so

far designed procedures to protect confidential information were generally felt to be sufficient to protect unauthorized access to such data. Some of the information so categorized as confidential would not have to be incorporated into the inspection report, and would have to remain on the facility premises.

CONFERENCE ON DISARMAMENT

CD/997
CD/CW/WP.293
12 June 1990

Original: ENGLISH

GERMAN DEMOCRATIC REPUBLIC

Inspection Methodology for Challenge Inspections in Industrial Chemical Plants

Introduction

An important principle for the conduct of challenge inspections is for the inspectors to apply the least intrusive verification methods possible while retaining the capability to collect all information that is required to demonstrate compliance or non-compliance. Approaches of implementing this principle are, e.g., the concepts of "managed access" and of "alternative measures". In this paper, another such approach is presented for consideration: a layered (or phased, step-by-step) inspection approach. This approach was developed and partly tested in a trial challenge inspection at an industrial plant carried out in the German Democratic Republic. A report on this trial has been submitted in another working paper. This working paper is a more detailed discussion of the concept of a "layered inspection methodology".

The "layered inspection methodology" consists of four phases with increasing intrusion triggered by the results of the less-intrusive inspection phases together with an assessment of these results in the light of the circumstances and particularities encountered. That was considered to allow an inspection team to develop its actual inspection strategy depending on the specific situation at the site. Consideration was also given to the possibility that the plant management, in case of a violation of treaty provisions, had implemented a counter-inspection strategy in order to cover-up clandestine activities.

In the following phase-by-phase description of the concept, several elements and procedures of a challenge inspection (such as initial briefing, location detection, site securing, etc.) are ignored. For a description of a full-scale inspection, these missing elements and procedures would have to be added.

1. Phase one

Based on the inspection mandate, the aim of this phase is to confirm the absence or presence of schedule-1-chemicals. Prompt analysis may be performed by inspectors of environmental and other samples at the outset of the inspection,i.e. at a stage where the inspection team has only a very limited understanding of the specifics of the inspected plant. As a second step, proper sampling point selection and subsequent sampling and analysis may follow after the inspection team had developed a sufficient understanding of the plant. In order to be able to do so, relevant information should be provided by the plant operator to the inspection team.

Thus, the following steps were considered necessary:
1. Prompt analysis of the following types of samples immediately after commencement of inspection activities:

- air samples taken from the plant environment (close to reaction vessels, in- and out-lets, etc.) and around the plant;
- soil, dust, and ground samples taken as above;
- samples taken from the waste water channel, and the reactor ventilation system;
- wipe samples taken from surfaces in the plant area.

2. Sampling and analysis at measurement points selected after careful design evaluation of the plant, such as:

- joints most likely to retain traces of previously produced chemicals;
- valves and/or outlets;
- elements inside the waste treatment station/channel;
- part of the reactor ventilation system/gaseous effluent treatment system;
- structural elements in the factory area which are likely to retain residues of chemicals present in the plant environment (validation of these points by analytical methods).

Some of these measurement points may already have been selected under 1 and will not be sampled a second time. However, it is considered of crucial importance that the inspectors develop a certain understanding of the plant design in order to sample at valid points. Thus, it will be necessary that the inspection team be given a plant design map together with a description of the technology used and be allowed to verify the correctness of that information by visual checks.

3. As a crucial additional effort. the team has also to verify whether clean-outs at the site can be ruled out.

Indicators to be looked for in this context may be, for example:

- visible signs at joints and other parts of equipments indicating recently performed replacements of equipments, renewed joint packings, etc.;
- signs for recent extensive cleaning operations at the site, to be detected by visual inspection;
- residues of detoxification operations (e.g., decontaminants at surfaces of reaction vessels, pipelines and other equipment, in ground and building structures, and in the interior of the equipment).

As another inspection method applicable in this phase as in fact in all phases, the inspectors may conduct interviews with facility personnel.

In case that residues of schedule-1-chemicals were detected at an inspected site (most probably at trace level), the inspection should immediately proceed to phase three (resolution of anomalies). The same applies in case that unmistakable signs for extensive clean-outs are encountered which might be residues of a covering-up. It should be underlined here that these anomalies are so far merely verification signals yet no proof of a violation.

In case that no such verification signals were encountered, a challenge inspection should proceed to phase two.

2. Phase two

The aim in this inspection phase is to assess whether or not the plant poses an immediate and high risk to the objectives of the convention. In this context, risk is understood to comprise both the potential CW capability of the plant and its roughly estimated capacity, in case it was assessed as being capable. CW capability is defined for the purpose of this discussion as being made up of the following increments: "chemical capability" (i.e., the availability of requisite chemicals), "technological capability" (i.e., the availability of requisite equipment), safety features, and the overall security regime at the inspected site.

The purpose of this particular phase is to provide for a sound decision by the team as to whether or not the results of phase one, if all negative (i.e., no detection so far of schedule-1-chemicals or signals for potential cover-up attempts), would suffice for the implementation of the inspection mandate.

This phase may become necessary because for a challenge inspection to be able to conclusively demonstrate compliance or prove violation, an inspection team will have to take into account the possibility that a violator had developed counter-inspection strategies which would

to some extent obstruct the team's ability to detect a violation.

To assess whether or not an inspected plant poses an immediate and high risk to the objectives of the convention, it was considered inappropriate to request a plain statement from the facility management concerning the capability of the plant to produce schedule-1-chemicals. Rather, the approach suggested is to request a number of statements and documentations, subject to verification, which would allow the inspection team to carry out an independent if qualitative risk assessment.

The answers to be provided by the plant management will have to be backed-up by maps, the plant design map already submitted in phase 1, and will be validated by independent verification activities such as visual checks and analytical tests of chemical storage (preferably head-space analysis). Again, an increment of this phase would be to assure that no signs of masking activities are detectable.

These statements and documents might include:

- The territorial situation of the site in relation to urban areas (cities, villages, etc.);
- A statement on special preparation at the plant for providing safety against chemical accidents (such as arrays of special chemical sensors or alarms, installations suitable for rapid decontamination of the site, availability of specific decontaminants at the plant, availability of individual protection equipments and its nature, etc.);
- A statement on special equipment installed at the plant, such as reaction vessel with inner surface coatings inert against highly corrosive gases (such as HF), or measures taken to provide for leak-protection to an unusual extent;
- A statement on the utilization (presence at the factory) of chemicals to assess the plant's "chemical capability", and notably of chemicals listed under schedules 2 and 3 of the convention.

For the evaluation of the risk that the plant poses to the objectives of the convention, the following assessments were conceived in combination:

1. A qualitative downwind hazard evaluation for nearby urban areas assuming production of a schedule-1 warfare agent at the factory, based on plant size and actual territorial features of the area.

2. Assessment of the plant's capability to produce a schedule-1-chemical based on available **chemicals** (starting materials, intermediates, final products).

3. Assessment of the plant's capability to produce a schedule-1-chemical based on the existing **technological**

and safety lay-out (including equipment present, systems providing for plant safety such as monitoring of chemicals at the site, preparations for large-scale decontamination, and waste and effluent treatment, relationship to other plants if the inspected facility is part of a larger complex, etc.).

4. Assessment of the security regime at the site.

Here is an example for how such assessments may be carried out: In the GDR trial challenge inspection, a computer program for the generation of synthesis paths was used for evaluating the "chemical capability". For illustrative purposes, some general information on the program follows:

The program used is called RDSS (Reaction Design by Synthone Substitution) and has been jointly developed by the Chemiekombinat Bitterfeld, and the Central Institute for Cybernetics and Information, GDR Academy of Sciences, Berlin, with the aim to compute synthesis strategies or break-down paths of chemicals. It may be applied to compute potential synthesis paths from chemicals present at a site into chemicals listed under schedule 1.

The program uses structural features of the parent chemicals in form of synthones and a database compiling chemical reactions published during the past 10 or so years as reported by the Chemical Abstracts Service. Synthones form the "knowledge-basis" of this data-base. Starting from the structural information of a parent chemical, generation of son chemicals is thus possible, and vice versa. It is also possible to combine a parent chemical with a remote son chemical (superposition of son chemical generation with break-down computation) in order to identify possible synthetic paths between the two.

The program uses eight different levels of discrimination for excluding chemically improbable reactions. It is planned to further study the potential application of this program for verification purposes.

In a more general way, approaches and concepts which have been developed for the conduct of risk assessments in other fields may to some extent be applicable here.

5. The overall risk assessment would be the result of all these partial assessments in combination. In case that the inspection team encounters features at the inspected site which, in the judgment of the team and based on best international practice at industrial plants of the type inspected, may point to an immediate and significant risk, the inspection could enter into phase 3. Otherwise, the team could conclude inspection activities.

4. Phase three

Three types of plants may reach inspection phase three:

Plants showing verification anomalies in the first two inspection phases, such as
- detected residues of prohibited chemicals;
- detected traces of plant modification prior to the inspection;

and plants being assessed by the inspection team as immediate and high risk to the objectives of the convention.

In the first case, i.e. in case that prohibited chemicals were in fact detected (most probably at trace level), the following steps may be considered for phase-3 inspection activities:

- sampling for off-site confirmation analysis, preferably using mass spectrometry (it is assumed that a positive on-site analysis would be backed up by a double and a blank test), for samples taken at the same and additional sampling points;
- the plant management and/or the representative of the national authority of the inspected state should be requested to provide an explanation (which should be recorded in the inspection report). To the extent possible, data in that statement should be verified as well.

In case that the inspection team considers the provided explanation insufficient, ambiguous, or otherwise unsatisfactory, and hence serious doubts arise as to whether or not a violation might in fact have taken place, the inspection team would decide to proceed to activities under phase four.

The second type of plant to consider is one where alterations were detected. Such alterations might have been:

- clean-out activities including decontamination;
- physical replacements of equipments in place.

For a typical industrial chemical plant, it seems reasonable to assume that an inspection team may face one of the following situations which would generate signals for the inspectors:

- plant under routine overhaul (i.e., non-producing)
- repair operations after accidents etc.
- routine clean-out to prepare for new production
- recently started new production cycle
- other routine maintenance operations

Given the time requirements of challenge inspections, it certainly will be possible to discriminate such

legitimate operations against extensive express cover-up attempts such as external and internal plant decontamination, replacement of a number of sensitive equipments, breaking and re-fitting of joints in a rather large number, etc.

In order to resolve anomalies, the nature and timing of alterations ought to be assessed by the team. For doing so, a facility statement should be requested explaining the time (whether the alteration was done before or after information on the imminence of an inspection), nature, and purpose of the alteration. On this basis, the inspection team should attempt to

- assess the plausibility of the given statement;
- verify, to the extent possible, details given in this statement (e.g., by record evaluation, interviews, sampling and analysis of decontaminants used, visual inspection, etc.), the level of intrusion being governed by the nature and extent of the alteration detected;
- evaluate the potential consequences in case of major alterations and assuming that the statement, to the extent not verifiable any more, may have been falsified deliberately.

Based on these activities, the team may find itself in a position either to conclude that despite detected alterations no indications of an actual violation or a severe risk to that end were encountered, or that such indications exist. In the latter case, the team would proceed to inspection phase four.

The third type of plant to consider is one where no traces of schedule-1-chemicals were detected and no signs of cover-up activities were encountered either while the team still concludes that the plant, given its access to raw material and its technological lay-out and security and other features, may pose an immediate and significant risk to the objectives of the convention. The baseline for such a judgment should be the best international practice at chemical industry plants of a comparable type. Such a plant would consequently show a number of unexpected features as compared to other, and notably state-of-the-art plants.

At that stage, an inspection team might decide to do one of the following:

- assess the plausibility of the plant design and of other features encountered;
- carry out additional analytical investigations, as a back-up for the already performed analytical tests and at other sampling points;
- verify facility records, operating records, and further documentation for confirmation of the facility statement.

The inspection would proceed further into phase four only in cases where evidence casts doubt on the compliance at the plant.

5. Phase four

Plants reaching this inspection phase are highly suspicious of actually having violated the convention because of the verification results so far encountered, which may be one or more of the following:

- confirmed identification of schedule-1-chemicals in the facility plus inappropriate (in the judgment of the inspection team) explanation provided by the plant operator and/or the representative of the national authority for the presence of these chemicals;
- unmistakable signs for most recent cleaning or replacement operations which appear to depart from the normal pattern of such operations at industrial plants;
- appearance of a number of features which let the inspection team conclude that the plant may have been designed in such a way as to be capable of producing schedule-1-chemicals on a significant scale while obstructing verification effectiveness to some extent.

The inspection has to exploit all possibilities to conclusively prove that a violation has in fact occurred, or that despite verification signals encountered so far a violation can be ruled out. The methods applied by the inspection team and the level of intrusion will have to be such as to enable the team to arrive at conclusive inspection results as long as the facility operator and the representative of the inspected state continue to co-operate.

Assuming continued such co-operation (which itself can be regarded as a signal in the verification process indicating though not demonstrating compliance), some of the following steps might be taken by the inspection team depending on the specific situation:

- Detailed auditing of plant records, additional documentations (e.g., bills and contracts), etc.;
- Interviews with plant personnel, medical check-ups to identify signs of earlier intoxication and/or exposure to prohibited chemicals;
- Verification of documents about the history of the plant (accident protocols, reports of national or international inspections/visits in frame- works other than verification of the chemical weapons convention, such as commercial contacts, environmental inspections, etc.;
- Verification of related facilities/plants if the inspected plant is part of a larger complex;
- Submission of data to balance the material consumed for legitimate production at the site with subsequent verification of these data to the extent still possible

(in particular, cross- examination with data from outside the facility, if available at the Technical Secretariat);
- Further analytical investigations in and around the plant in order to find traces of prohibited chemicals or decontamination agents.

Other intrusive inspection methods may be applied as well depending on the circumstances.

Summary

The inspection methodology described in the present working paper for the conduct of challenge inspection in industrial plants has been partly tested in the GDR trial challenge inspection at the chemical combine in Bitterfeld. During this exercise and in the evaluation of the results of the trial, the participants concluded that such an approach might

- facilitate the implementation of the principle to apply the least intrusive verification methods possible;
- provide guidance for future inspectors for how to implement the inspection mandate;
- allow the inspection team to appropriately and effectively respond to potential counter-inspection strategies;
- allow, for the cases of such an inspection at innocent plants, to keep the level of intrusion modest while still retaining the ability to detect signs of violations had these occurred.

Preliminary experience in applying the concept described in this working paper seems to suggest that such a methodological approach will help to keep the number of challenge inspections with inconclusive results very low.

It stands to reason that all procedures suggested should be applied in a very flexible manner and that the inspectors should have the necessary skills, knowledge and experience.

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Application of Trace Analysis to Exploit Memory Effects in Challenge Inspections

Introduction

For an effective conduct of challenge inspections, appropriate analytical concepts, methods, and instruments are essential. They will have to combine high specificity and sensitivity with as little intrusiveness as possible. Also, methods used should have a certain capability to provide information about previous activities at the inspected site. Other important features would be portability and reasonable cost.

This working paper briefly describes an approach developed in the GDR's trial challenge inspection in an chemical industry plant (see also the corresponding report which has been submitted as a separate working paper). An attempt was made in this trial to develop sampling and analytical methods for quick on-site verification using a portable ion mobility spectrometer, in order to exploit memory effects of a chemical plant. Investigations are still being conducted to further improve the concept.

1. Development of methods in pre-inspection laboratory experiments

1.1. General Information

Instrument used: prototype transportable PC-supported IMS, developed at the Central Institute of Isotope and Radiation Research, GDR Academy of Sciences, Leipzig

Instrument Calibration

In order to predict the position of nerve agents on the flow-time axis, the ion mass - ion mobility - dependence was established using several nerve agent simulants. The concentrations were in the range of 5 to 50 ppb using a gas permeation chamber. Dimerization peaks were usually recorded at concentrations of 5 to 35 ppb, and the peaks corresponding to ions of the type M_2H^+ (M = molecule of the substance to be determined) - the energetically most stable ions generated - were usually selected for identification purposes. Also, peaks corresponding to

ions of the type $M(H_2O)_6H^+$ were used for that purpose. The corresponding relationships were:

- for ion type M_2H^+:

$$\lg m = -0.544 \times K_o^+ + 3.176 \quad (r = 0.998)$$

- for ion type $M(H_2O)_6H^+$ and ion type M_2H^+:

$$\lg m = -0.510 \times K_o^+ + 3.137 \quad (r = 0.995)$$

These correlations are consistent with data published in literature.

In all further experiments, DIMP (diisopropyl-methylphosphonate) was used as the model substance simulating schedule-1-chemicals.

1.2. Pre-inspection laboratory experiments

A number of experiments was conducted before the trial inspection in order to develop methods which would allow to:

- validate sampling points selected in a plant;
- identify traces of organophosphorous schedule-1-chemicals against the background of chemicals present;
- detect traces of chemicals deposited in the plant area by production activities which had occurred before commencement of the inspection.

1.2.1. Detection of DIMP in mixtures containing an excess concentration of organophosphorous pesticides

The following organophosphorous pesticides (in form of formulations and/or pure compounds) were used in the experiments:

- Bi-58 EC (pesticide formulation containing dimethoat)
- Wofatox (pesticide formulation containing parathion-methyl)
- Fekama Tribuphon EC 50 (pesticide formulation containing butonate)
- DDVP (pure chemical)
- methamidophos (pure chemical)

DIMP detection and identification was performed from gas samples as well as in the head space of liquid mixtures (placed inside a diffusion chamber). The following conclusions were drawn:

- At a DIMP concentration in the gas phase of approximately 0.04 mg/m³ and a DIMP to pesticide ratio of 1 : (13 500 ... 22 000) for pesticide formulations, which corresponds to a ratio of 1 : (1 000 ... 10 000) for the pesticide itself, it was in all cases possible to clearly identify the $(DIMP)_2$ peaks. These data were further

substantiated in experiments using pesticides as pure chemicals.
- In liquid mixtures of DIMP in pesticide formulations (pesticide concentration at a thousand-fold excess and above), it was possible to clearly identify DIMP from head space samples of these mixtures several hours after preparation of the mixtures.

Examples of the IMS spectra generated in these experiments are presented in figures 1 to 4.

1.2.2. DIMP identification from rubber material

In order to investigate the memory effect to be expected by absorption of chemicals in organic material used for joint packings etc., a piece of rubber tube was inserted into a parathion-methyl formulation containing approximately 0.1 per cent DIMP, for 16 hours. The sample was wiped off and placed under a laboratory hood. For measurement, it was placed into the diffusion chamber connected to the IMS and replaced under the hood again after measurement. Signal recording was conducted at 120 hours, 240 hours, 410 hours, and 580 hours after initial sample preparation.

As can be seen from figure 5, even 580 hours after the initial sample preparation identification of DIMP remained possible with sufficient reliability.

1.2.3. Development of wipe tests

In order to evaluate the detection limits for wipe tests on metal surfaces potentially contaminated with schedule-1-chemicals, between 10 and 100 microliters of a solution containing 10 micrograms per ml DIMP in n-hexane were transferred onto aerosol filter paper (diameter 2 cm). The samples were air-dried for 2 minutes and placed into the IMS sampling chamber for subsequent analysis. The detection limit thus established was approximately 1 microgram DIMP. The test was then repeated with a DIMP - pesticide mixture (parathion-methyl formulation). This test confirmed the detection limit.

In a subsequent experiment, a steal surface was contaminated with the DIMP-pesticide mixture (1 microgram DIMP was thus applied onto a surface of approximately 5 square centimeters). After 2 minutes, the steal surface was wiped off with filter paper which was then placed into the IMS inlet chamber. The signals recorded did confirm the detection limit estimated in the first experiment.

For illustration, the recorded spectra are presented in figures 6 and 7.

2. Trial inspection analytical results

Details on the conduct of the trial inspection and the basic methodology applied are reported in two other working documents, and will not be repeated here. Only the analytical data are set out in the following section.

2.1. Selection of measurement points

The measurement points selected after plant design analysis and visual inspection of the plant are illustrated in figure 8, in a simplified way. The following points were selected:

1. Ambient air samples taken outside the factory building using an air filtration system connected to the instrument.

Justification: Rapid environmental analysis, establishment of the analytical baseline for other tests.

2. As under 1, without air filtration.

Justification: Rapid environmental analysis, detection of prohibited chemicals and actual production.

3. Air samples taken inside the factory building.

Justification: Detection of prohibited chemicals as well as pesticides produced in the plant, indication of air tightness of the equipment installed.

4. Air samples taken very close to the inner wall surface of the building.

Justification: Exploitation of memory effects for the detection of previous activities.

5. Sniff-test from joints connecting to reaction vessels

Justification: As under 4

6. Wipe-samples taken from reactor surfaces

Justification: Detection of residue concentrations of chemicals at levels to be expected after cleaning or decontamination of surfaces, detection of residues of decontaminants.

7. Dust sample taken from the ground inside the factory building

Justification: As under 4

8. Samples taken from the interior of reaction vessels

Justification: Detection of traces of former production in case of a recent clean-out and re-start of innocent production.

2.2. Results at measurement points 1 to 4

These results are summarized in figure 9.

While in the atmosphere outside the plant building, only chloro benzene could be detected, parathion-methyl could be clearly identified in the interior plant atmosphere. The detected pesticide concentrations right above the wall surface were considerably higher than approximately one meter away from the reaction vessels.

Conclusions drawn:

1. The equipment at the site was clearly unsuited for nerve gas production in terms of gas-tightness. Air in the interior of the factory was contaminated with the product of the plant and with chemicals used as starting materials.

2. The higher concentration of parathion-methyl at the wall was interpreted as a memory effect. Chemicals present at the site will stay for prolonged periods of time in these structures and will remain detectable with trace analytical methods.

2.3. Measurements at point 5

The results of measurements of samples taken from joint packings are illustrated in figure 10. Air was sucked-off from a joint slit. In a validation experiment, approximately 45 ppb DIMP were added by insertion of a diffusion tube into the gas stream. DIMP was clearly identifiable against a huge excess concentration of chemicals absorbed by the material and released during sampling. This parathion-methyl concentration in turn demonstrated the feasibility of exploiting memory effects in such structures.

As a back-up to these results, laboratory investigations were conducted with the types of packing material actually used in the factory. The test conditions were those described in para 1.2.2. The results are presented in figures 11 and 12. The simulant remained detectable for more than 235 hours from both materials tested. Preliminary laboratory results suggest a much longer residence time of chemicals adsorbed or absorbed by packing materials. Additional tests are still under way.

Based on the experimental data so far available, it seems feasible to combine trace analytical methods for the identification of certain chemicals with visual checks to detect indications of joint packing replacements. Such an

approach should have a considerable retrospective capability while also enabling to identify chemicals which were previously used or produced in the plant even without sampling from the interior of the vessels etc. (i.e., in as non-intrusive way which would not interfere with normal facility operations).

2.4. Wipe test results (measurement point 6)

A solution of DIMP in n-hexane was sprayed onto the surface of a reaction vessel 2.5 hours before the test. The amount so applied to the steel surface was approximately 10 microgram per square centimeter. The sampling device was an aerosol filter paper (diameter 2 cm). After sampling, the filter paper was inserted into the inlet head of the IMS. The results so recorded are presented in figure 13. DIMP was clearly identifiable in the sample.

Additional tests are still under way to establish the retrospective time coverage capability of that test.

2.5. Dust sample results

Dust samples taken from the factory ground were analyzed. In a validation experiment, such dust samples were transferred into the laboratory and spiked with different concentrations of DIMP. Several hours after preparation, the samples were placed into a special inlet system of the IMS and spectra were subsequently recorded. The results are presented in figure 14. DIMP can clearly be identified at 10 and 100 micrograms in a 7 grams dust sample. Additional tests are still under way.

2.6. Identification of DIMP in the actual parathion-methyl product solution (sampling point 8)

A sample was taken from a reaction vessel containing the final product solution, and taken to the laboratory. DIMP was added at a concentration of 0.04 per cent (in relation to parathion-methyl). It was assumed that this concentration might represent a residue concentration of a former production after cleaning the plant and re-starting synthesis of another product, in the first batch.

The time dependence of the recorded signal is presented in figure 15. This time dependence may be a result of alterations in the sample over time, partial phase separation, and evaporation. However, the results clearly show that traces of the simulant remain detectable at the concentration chosen.

3. Results and conclusions

1. The combination of sampling techniques and analytical instrumentation used in the GDR trial challenge inspection was demonstrated to be applicable, in principle, for:

- the identification and/or validation of relevant sampling points, in particular those where enrichment of chemicals formerly having been deposited in plant structures has occurred, and
- the identification of a nerve agent simulant against an excess concentration of substances which are chemically very close (notably, organophosphorous pesticides).

2. In preliminary investigations, analytical concepts were developed and successfully tested which allow to exploit memory effects for retrospective detection and identification of production in a chemical plant. The investigations are being continued and a follow-up report will be presented at a later stage.

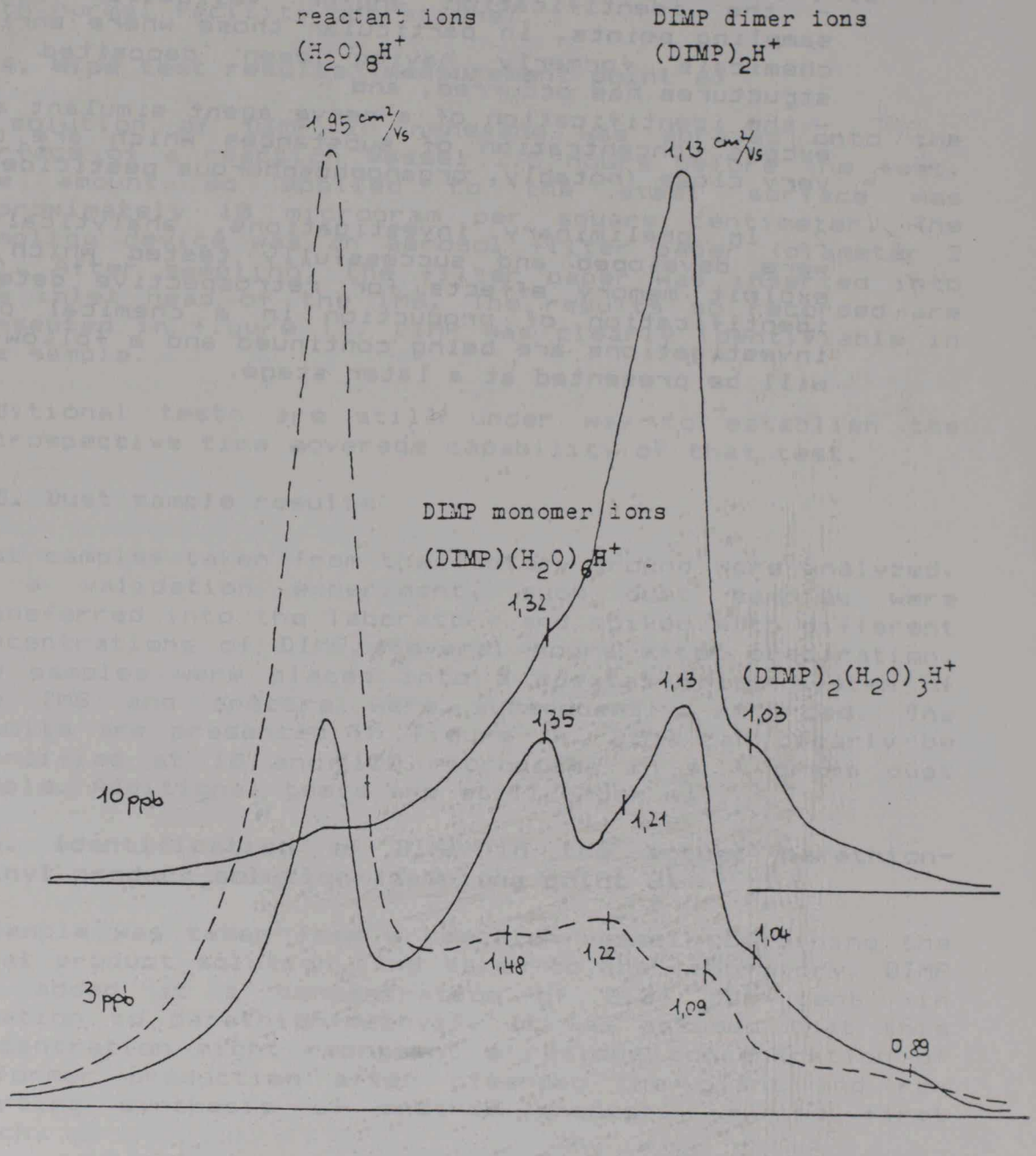


Fig. 1: IMS spectra recorded for 3 and 10 ppb DIMP in air

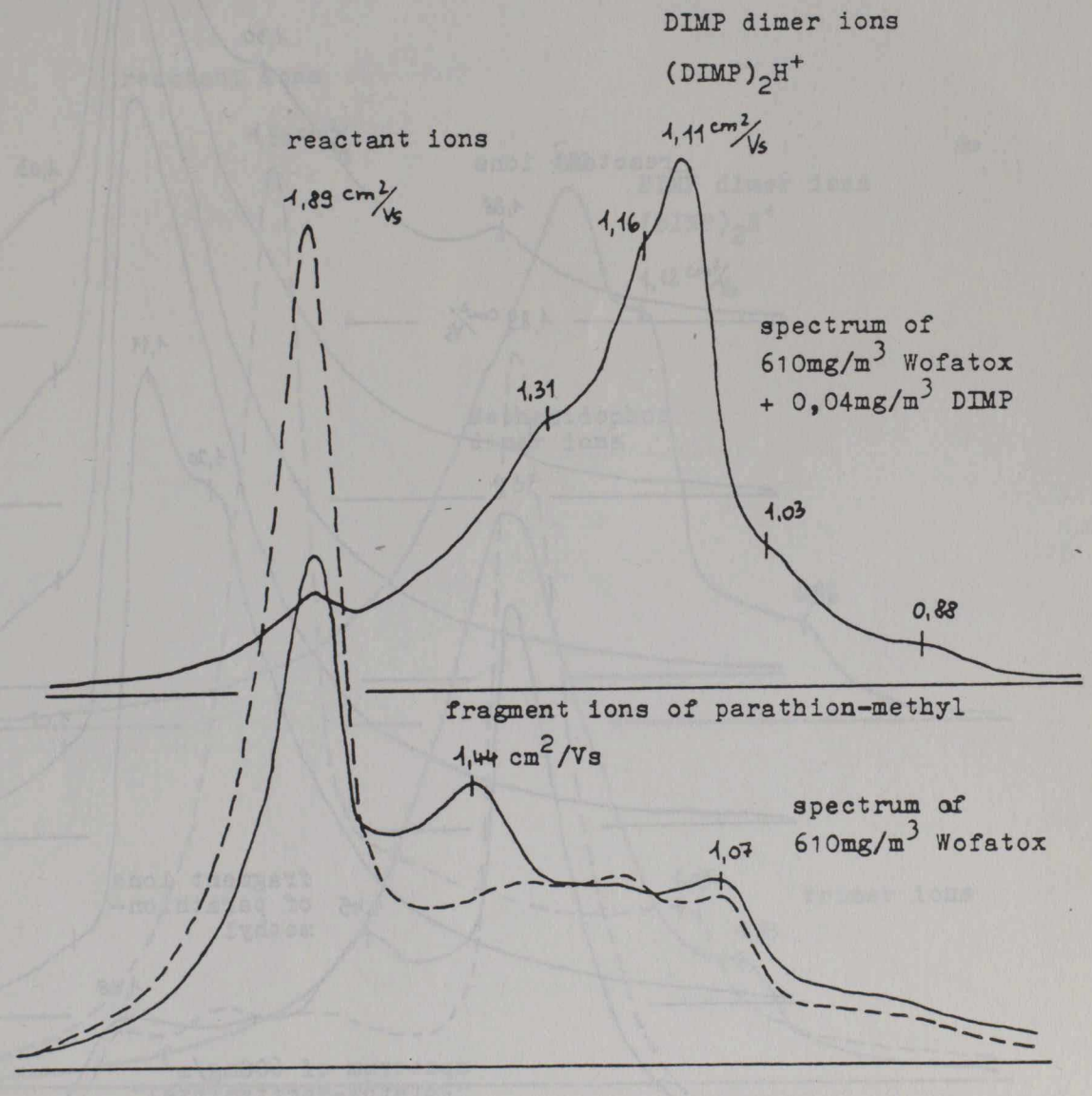


Fig. 2: Influence of 610mg/m^3 Wofatox on the shape of the spectrum of 0,04mg/m^3 DIMP

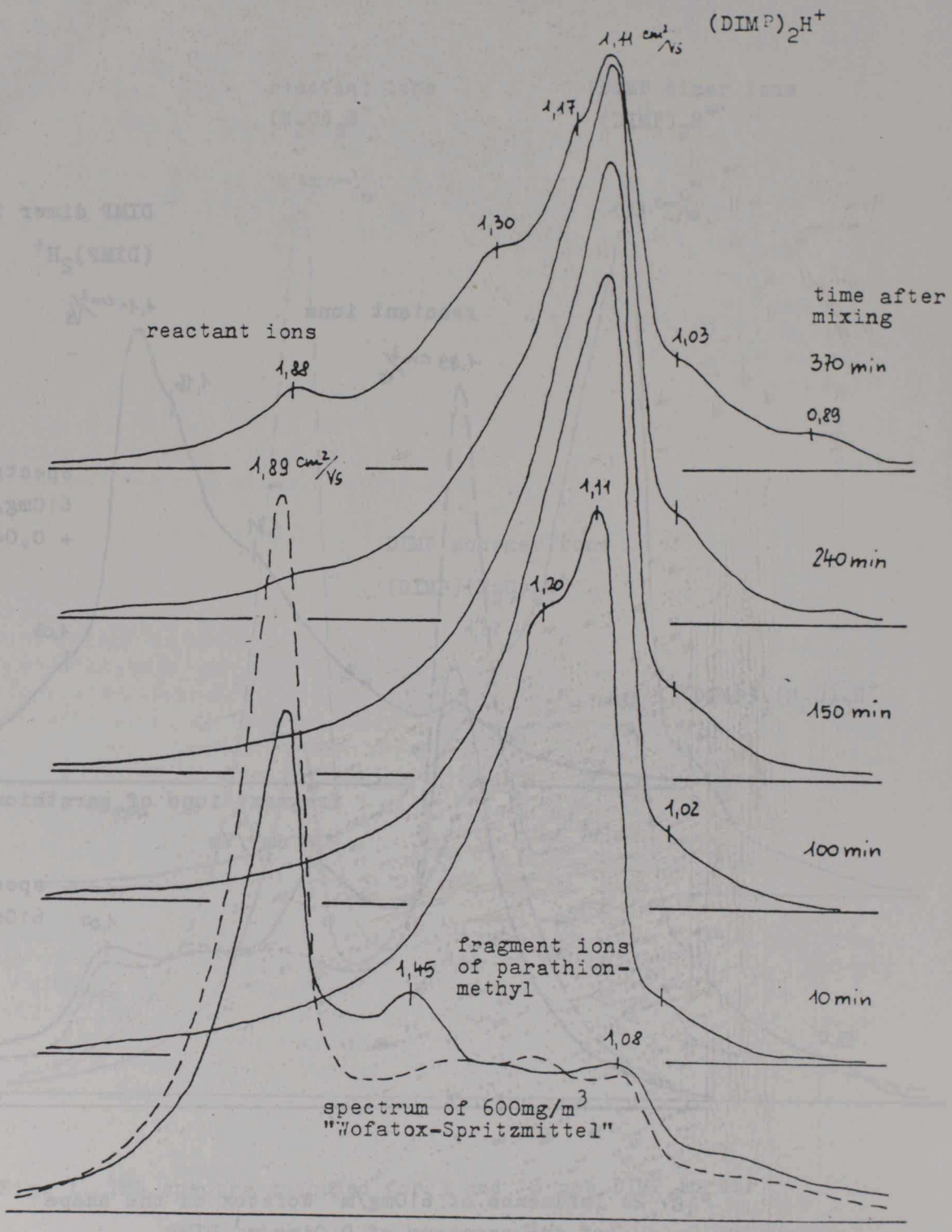


Fig. 3: Spectrum of a mixture of "Wofatox-Spritzmittel" and $1\,^{o}/_{oo}$ DIMP

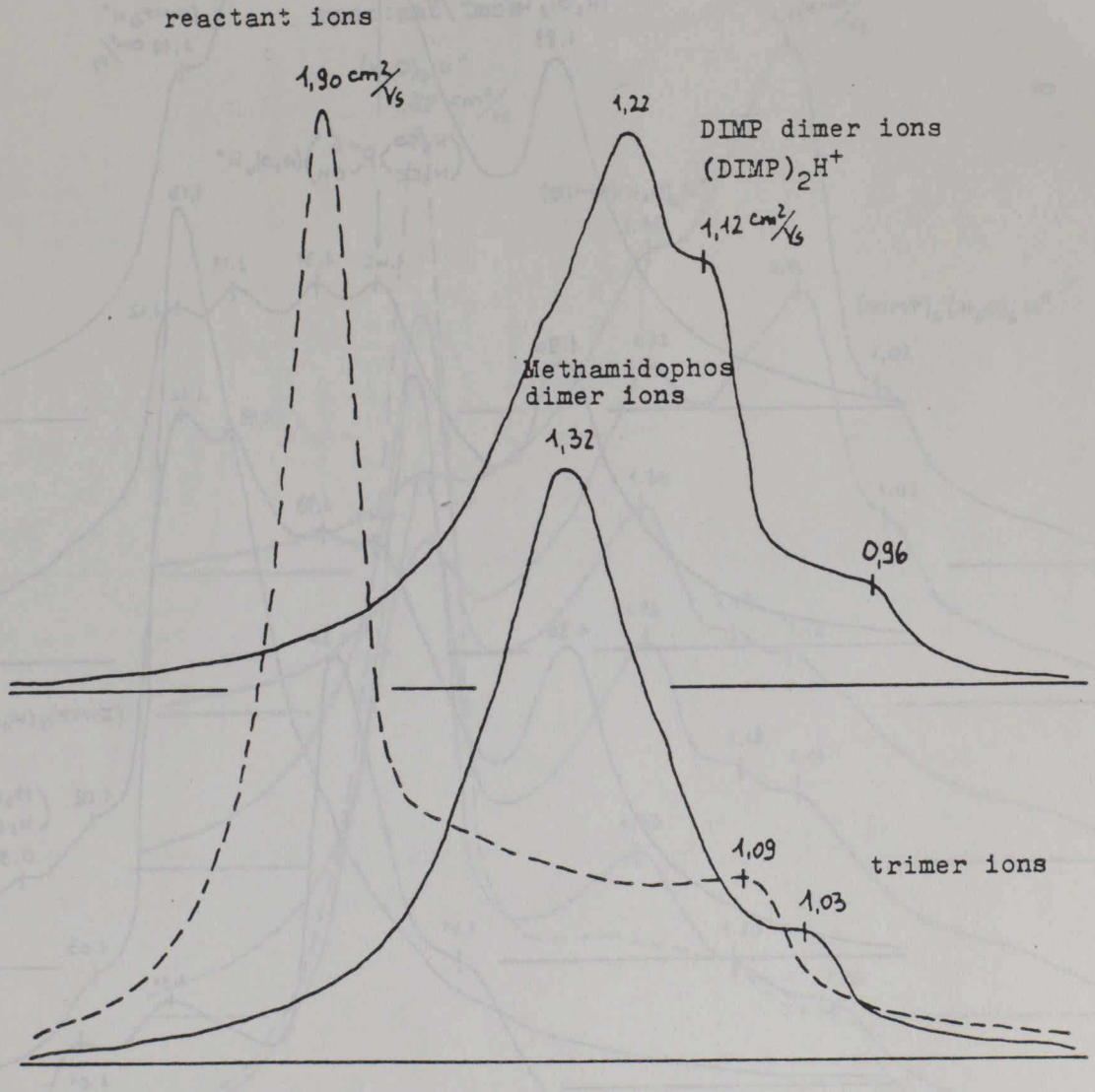


Fig. 4: Spectrum of a gasphase mixture of
10 ... 20 ppm "Methamidophos" and 5 ppb DIMP

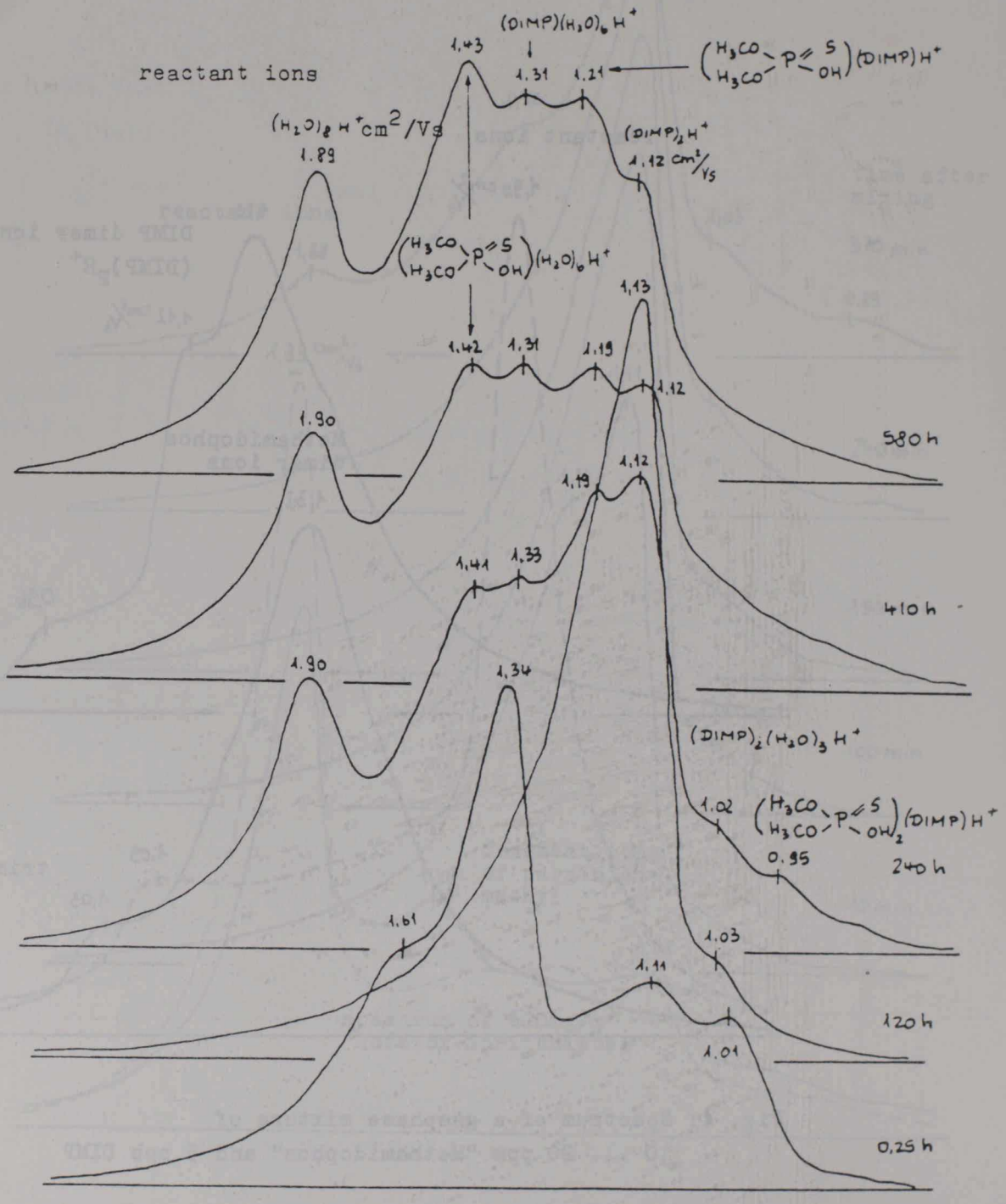


Fig. 5: Spectra recorded from a rubber sample contaminated with Wofatox + $1\,^{o}/_{oo}$ DIMP mixture, with increasing storage time

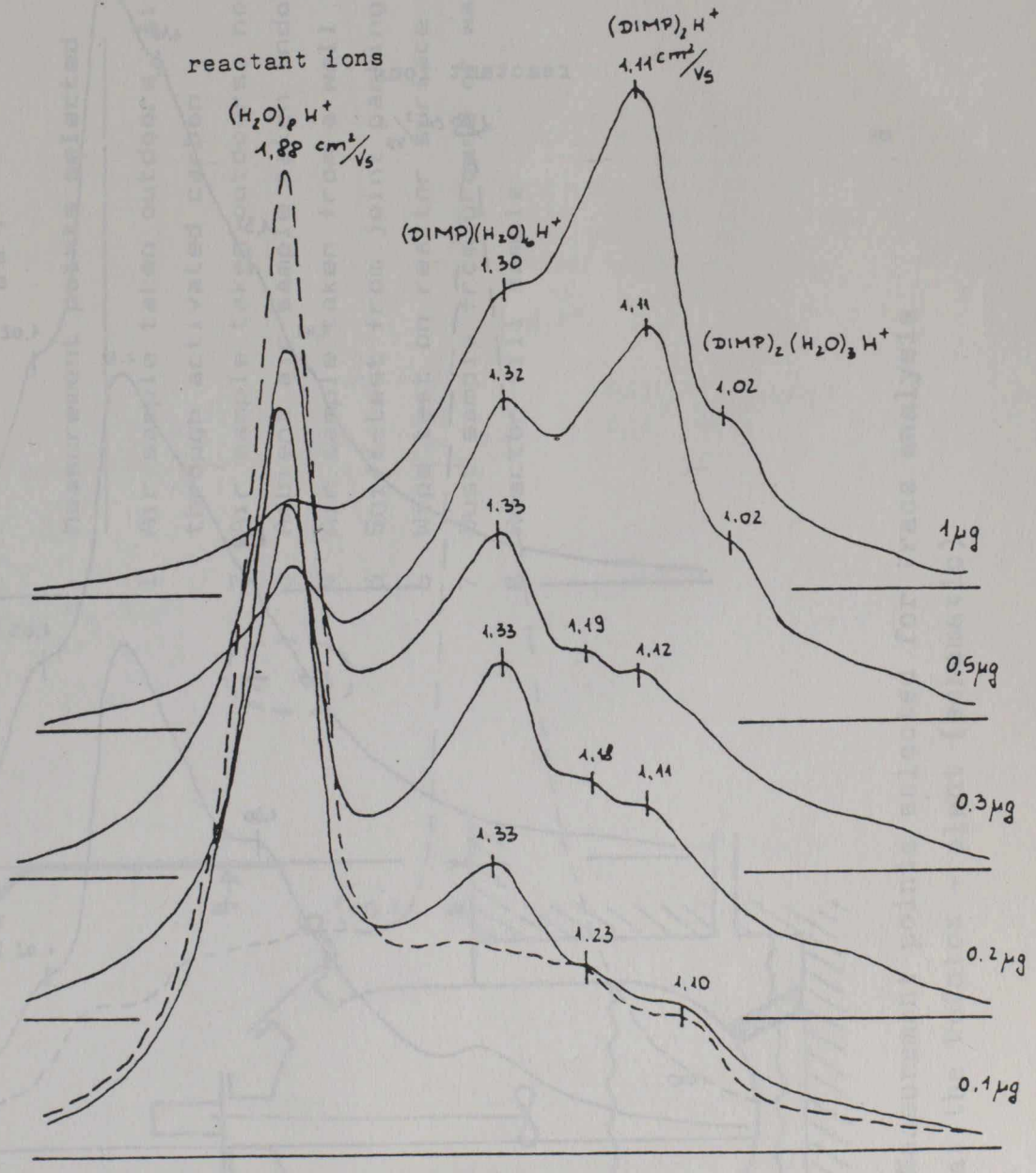


Fig. 6: Spectra of DIMP applied on aerosol filter paper, for different contents of DIMP

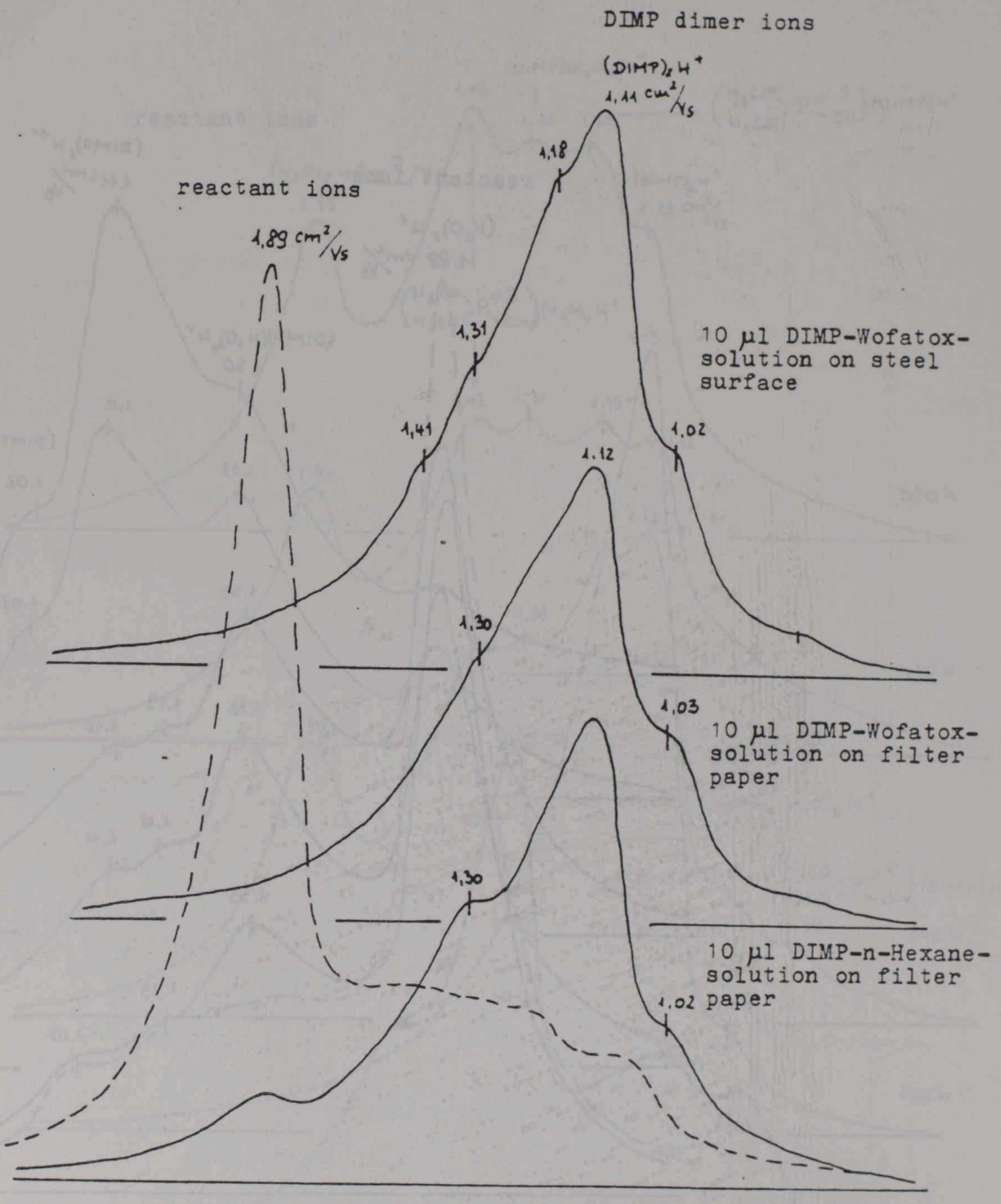
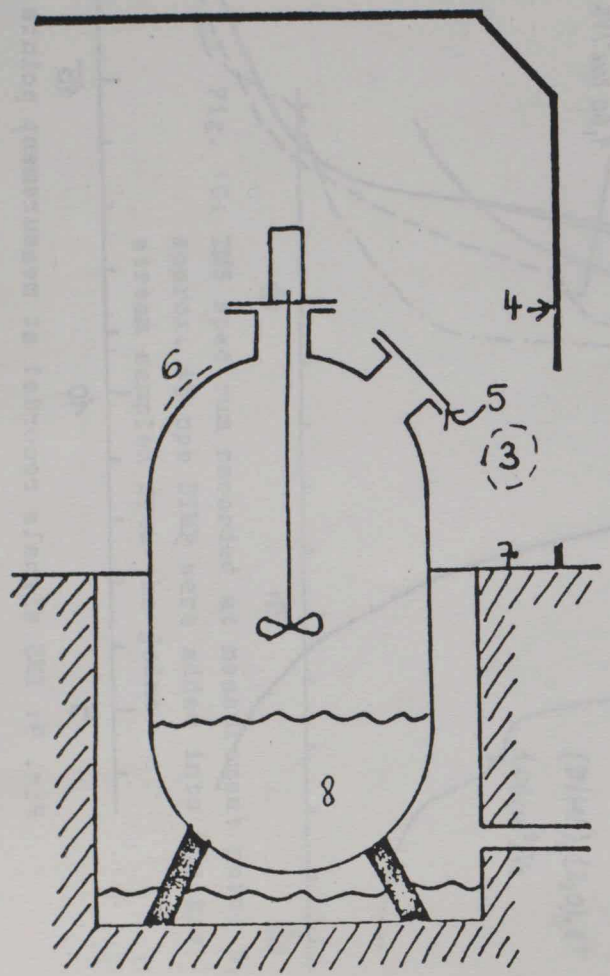
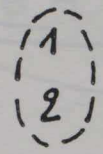


Fig. 7: Simulation of wipe-tests on a steel surface contaminated with Wofatox-DIMP-solution of a concentration of 0,1 mg DIMP / ml solution, the DIMP content was about 1 µg in all tests





Measurement points selected

1 Air sample taken outdoors, filtered through activated carbon
2 Air sample taken outdoors, not filtered
3 Ambient air sample taken indoors
4 Air sample taken from a wall surface
5 Sniff-test from joint packing
6 Wipe test on reactor surface
7 Dust sample from ground or wall
8 Reactor fill sample

Fig. 8: Measurement points selected for trace analysis at the Wofatox - plant (schematic)

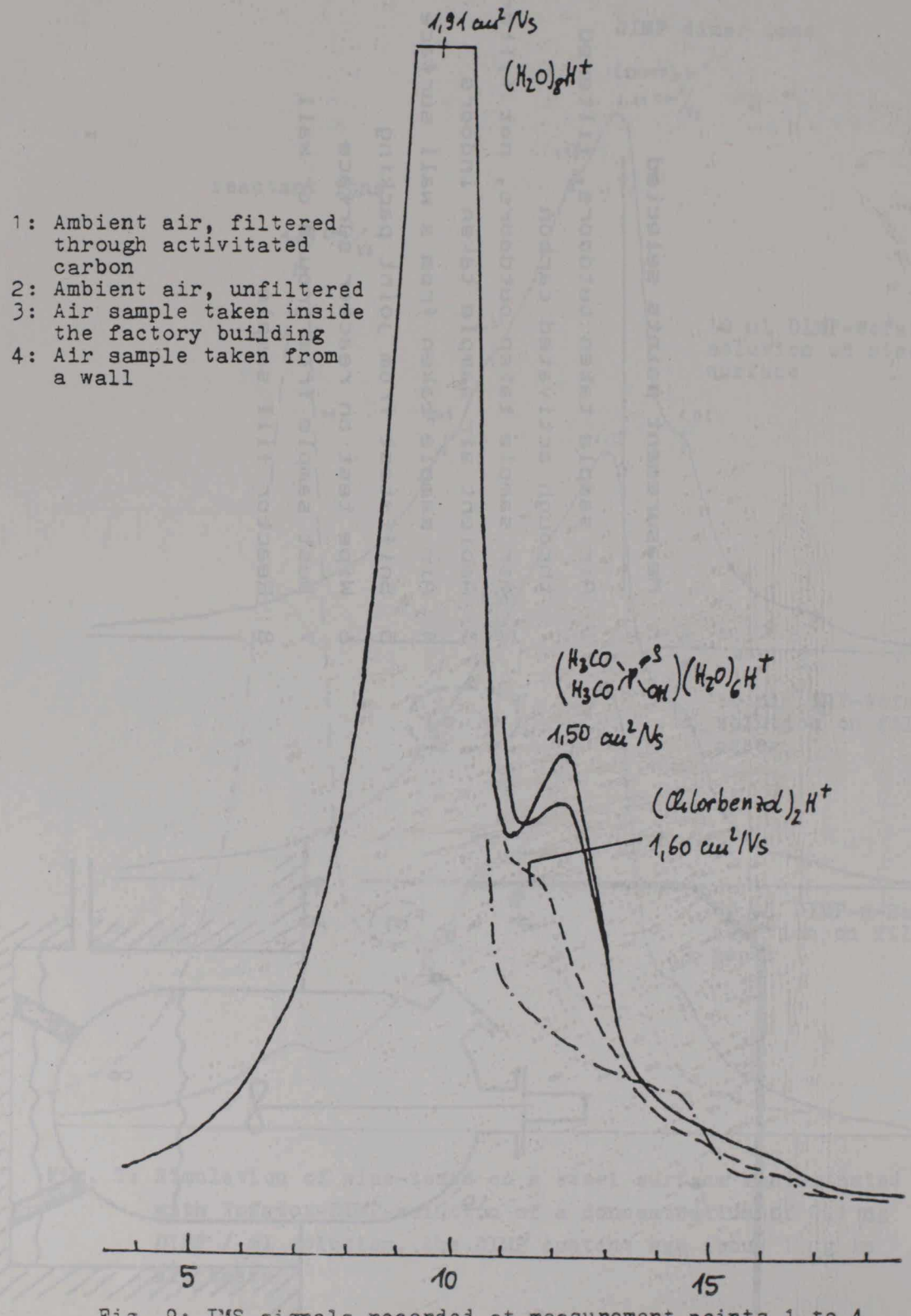


Fig. 9: IMS signals recorded at measurement points 1 to 4

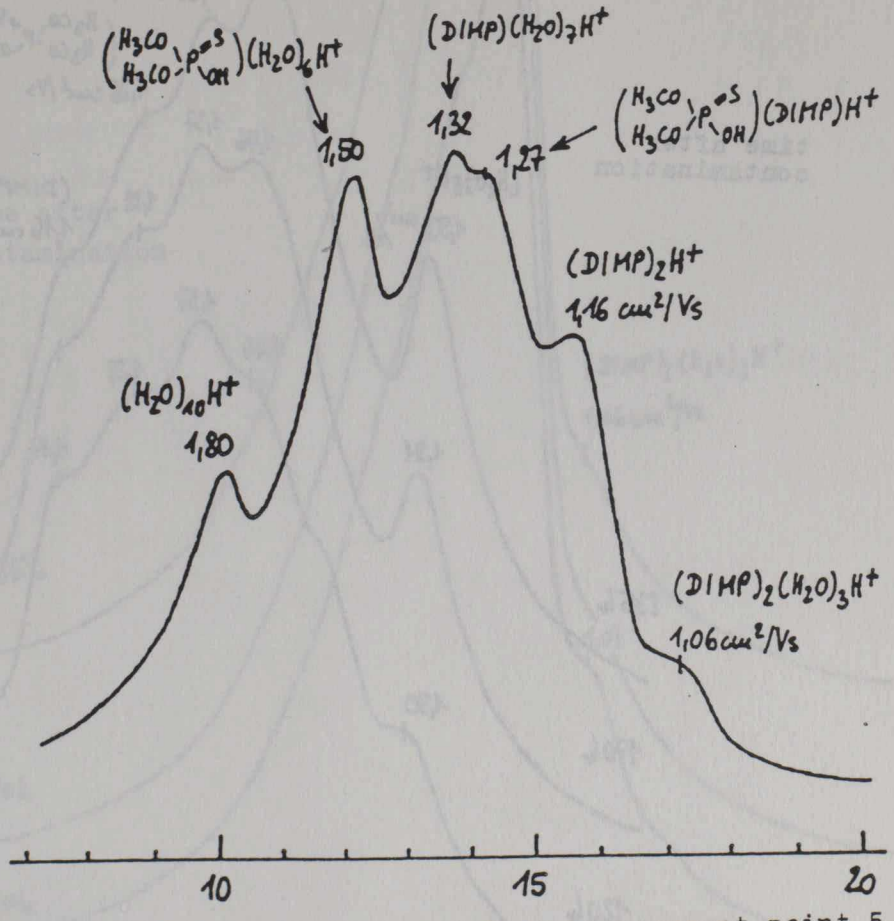


Fig. 10: IMS spectrum recorded at measurement point 5, approx. 45 ppb DIMP were added into the gas stream sampled from the joint

Fig. 11: IMS spectra recorded from fitting material (Kautasit), which was submerged into a parathion-methyl DIMP - mixture ($1^{o}/_{oo}$) for 16 hours, time dependence

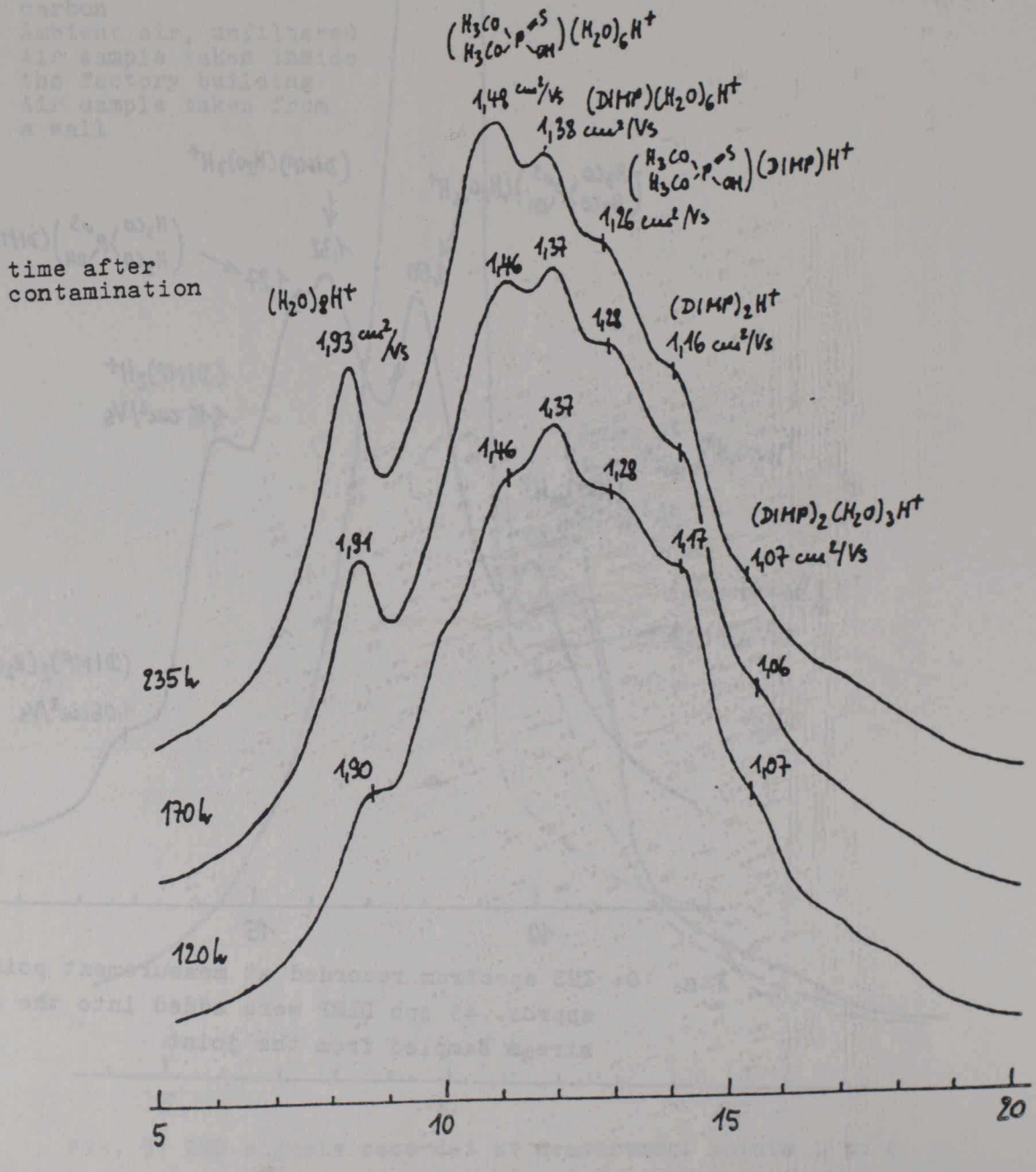
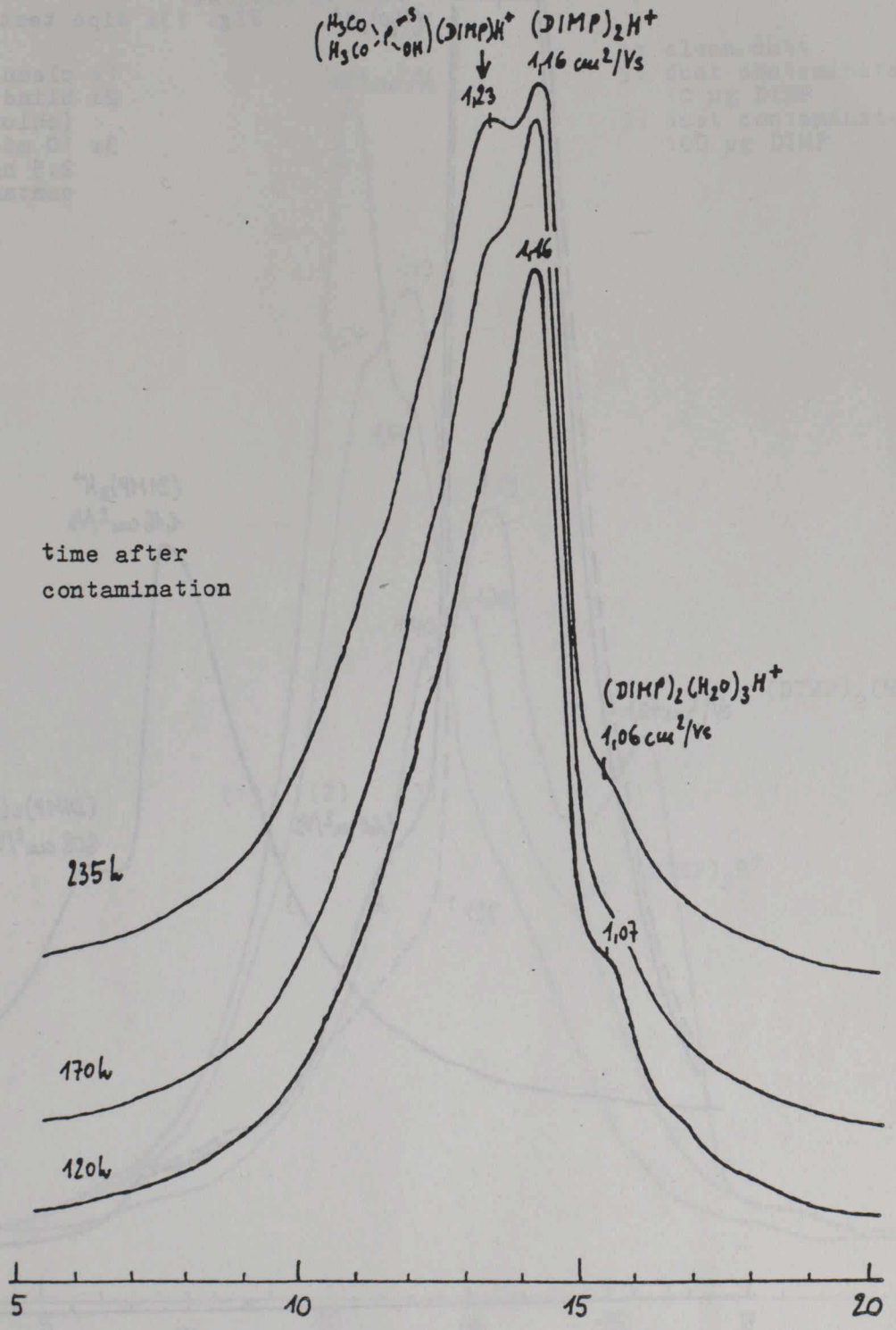


Fig. 12: IMS spectra recorded from packing material (PTFE) which was submerged into a parathion-methyl - DIMP mixture (1 $^{o}/_{oo}$) for 16 hours, time dependence



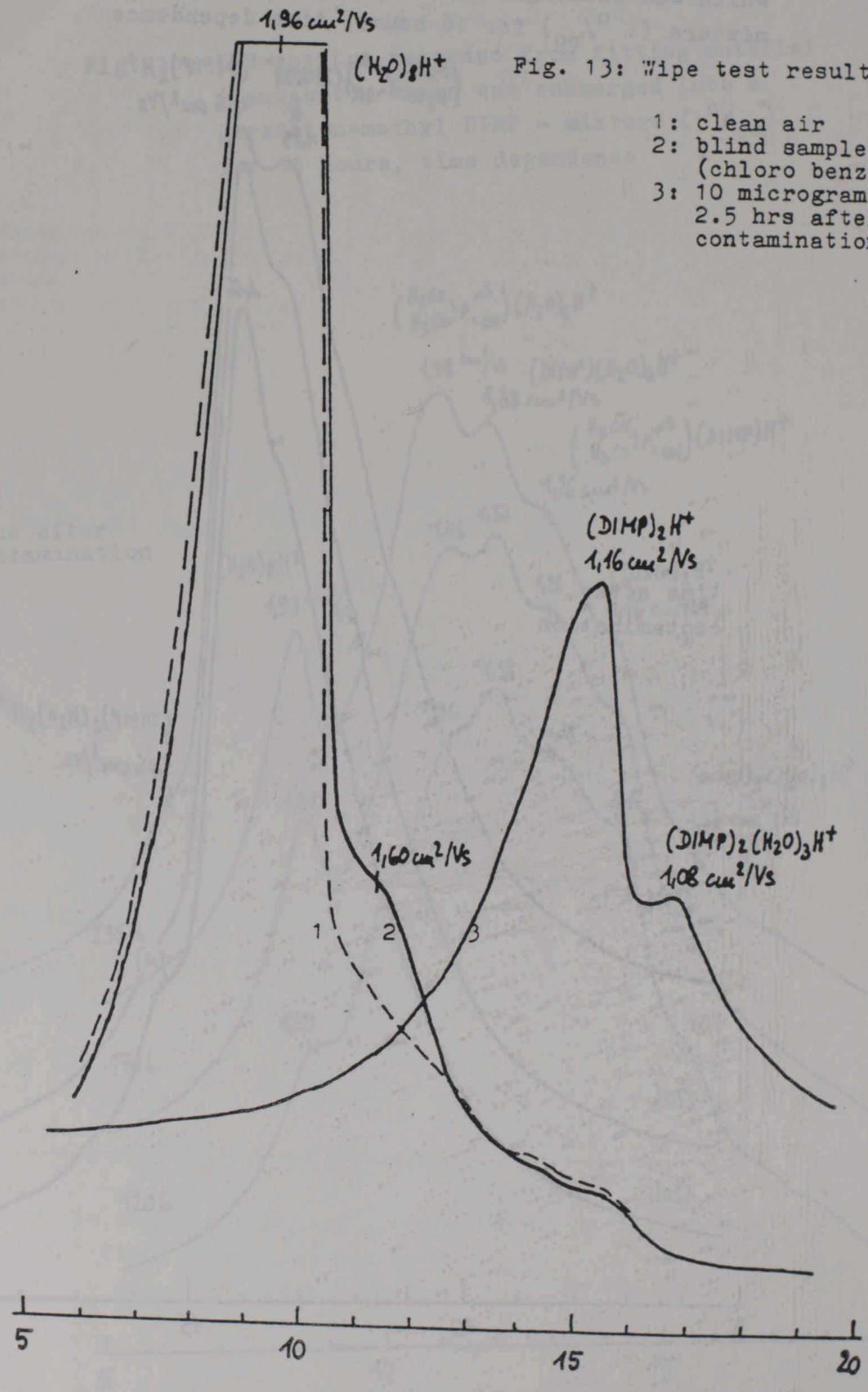


Fig. 13: Wipe test results

1: clean air
2: blind sample (chloro benzene)
3: 10 microgram DIMP 2.5 hrs after contamination

Fig. 14: IMS signals recorded from dust samples contaminated with different concentrations of DIMP

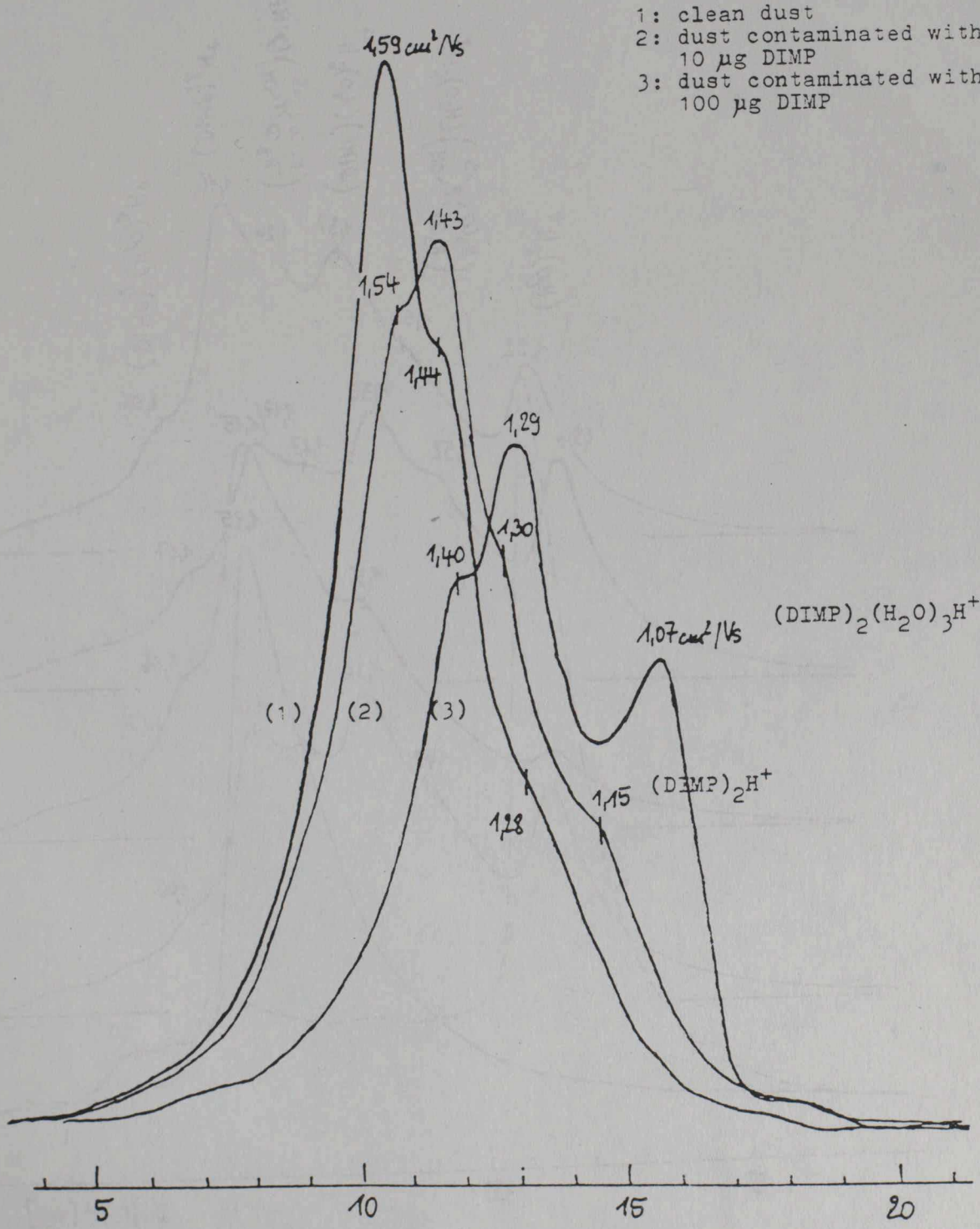


Fig. 15: IMS signals recorded at measurement point 8 (parathion-methyl, DIMP content was 0,4 $^{o}/_{oo}$), relationship between signal and time after mixing