

CONFERENCE ON DISARMAMENT

CHEMICAL WEAPONS

WORKING PAPERS

1989 SESSION

WP

VOLUME

II

COMPILED AND EDITED BY:

ARMS CONTROL AND DISARMAMENT DIVISION OF
EXTERNAL AFFAIRS AND INTERNATIONAL TRADE CANADA

OTTAWA, CANADA

MASTER COPY

FEBRUARY 1990

CONFERENCE ON DISARMAMENT

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This set of two volumes covers official documents (working papers) relating to Chemical Weapons submitted in plenary to the Conference on Disarmament during its 1989 session. It is compiled to facilitate discussions and research on this issue.

Volume I includes CD/85 to CD/90; Volume II includes CD/91 to CD/95.

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

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FEBRUARY 1989

CHEMICAL WEAPONS WORKING PAPERS
SUBMITTED TO CD 1989
EVOLUTIONARY TEXTS

1989

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	CD/878		Letter dated 12 January 1989, addressed to the Secretary General of the Conference on Disarmament	
	CD/879		Letter dated 12 January 1989, addressed to the Secretary General of the Conference on Disarmament	

PREFACE

WP

VOLUME II

This set of two volume covers official documents (working papers) relating to Chemical Weapons submitted in plenary to the Conference on Disarmament during its 1989 session. It is compiled to facilitate discussions and research on this issue.

Volume I includes CD/877 to CD/901; Volume II includes CD/907 to CD/955.

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1989

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419	CD/877 CD/CW/ WP.218	Italy	Letter dated 12 January 1989, addressed to the Secretary-General of the Conference on Disarmament from the Head of the Permanent Mission of Italy to the Conference on Disarmament, transmitting a document entitled "Proceedings of the International Forum on 'Total ban of chemical weapons: The problems of verification,' Rome, Villa Madama, 19-20 May 1988"	13.1.89
420	CD/878	Czecho- slovakia	Letter dated 17 January 1989, addressed to the Secretary-General of the Conference on Disarmament from the Charge d'Affaires a.i. of the Czechoslovak Socialist Republic transmitting a statement made in Prague on 5 January 1989 by the Government of the Czechoslovak Socialist Republic on issues concerning prohibition and elimination of chemical weapons	18.1.89
421	CD/880	France	Letter dated 27 January 1989 from the representative of France Addressed to the Secretary-General of the Conference on Disarmament, transmitting the text of the Final Act of the Paris Conference of	30.1.89

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			States Parties to the 1925 Geneva Protocol and Other Interested States, Including the Final Declaration of the Conference, adopted on 11 January 1989	
422	CD/879 [EXTRACT]	UN Secret- ary General	Letter dated 20 January 1989 from the Secretary-General of the United Nations to the President of the Conference on Disarmament transmitting the resolutions and decisions on disarmament adopted by the General Assembly at its forty-third session.	3.2.89
423	CD/881	AHCCW	Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 17 January to 3 February 1989	3.2.89
424	CD/889	CD	Decision on the re-establishment of the <u>Ad Hoc</u> Committee on Chemical Weapons	16.2.89
425	CD/890 and Add.1 CD/CW/ WP.223 and Add.1	Hungary	Report on the first national trial inspection	20.2.89
426	CD/893 CD/CW/ WP.224	Italy	Letter dated 24 February 1989 from the Permanent Representative of Italy addressed to the Secretary-General of the Conference on Disarmament transmitting an interim report on a trial inspection of two Italian chemical facilities	24.2.89

Serial	Reference	Country	Description	Date
427	CD/894 CD/CW/ WP.225	USSR	Letter dated 27 February 1989 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting a text of the report on the national experiment on trying out procedures of systematic control of the non-production of chemical weapons in industry, held in the USSR	28.2.89
428	CD/897	Australia	Letter dated 7 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting the text of a press release issued by the Australian Minister for Foreign Affairs and Trade, Senator Gareth Evans, on 7 March 1989	8.3.89
429	CD/899 CD/CW/ WP.227	GDR	Letter dated 10 March 1989 addressed to the President of the Conference on Disarmament from the Permanent Representative of the German Democratic Republic transmitting the text of a working paper entitled "Report on the national trial inspection of the GDR undertaken in a facility of the chemical industry"	10.3.89
430	CD/900 CD/CW/ WP.229	Czechoslovakia	Report on the conduct and results of the national trial inspection	15.3.89

Serial	Reference	Country	Description	Date
431	CD/901 CD/CW/ WP.230	France	Chemical weapons convention: Confidentiality	16.3.89
432	CD/895/ Rev.1 CD/CW/ WP.226/ Rev.1	Brazil	National trial inspection: Technical report	21.3.89
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433	CD/907	Australia	Letter dated 22 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting a document entitled "Provision of data relevant to the chemical weapons convention"	23.3.89
434	CD/909 CD/CW/ WP.232	UK	Chemical weapons convention: <u>Ad hoc</u> inspections	30.3.89
435	CD/910 CD/CW/ WP.234	Australia	Letter dated 4 April 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting a document entitled "Report of an Australian national trial inspection"	5.4.89
436	CD/911	Canada	Letter dated 30 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Deputy Permanent Representative of Canada transmitting compendia on chemical weapons comprising plenary statements and working papers from the 1988 session of the Conference on Disarmament	5.4.89

Serial	Reference	Country	Description	Date
437	CD/912 CD/CW/ WP.235	FRG	Report on a national trial inspection	7.4.89
438	CD/913 CD/CW/ WP.240	France	National trial inspection	11.4.89
439	CD/916 CD/CW/ WP.242	France	The scientific advisory council	17.4.89
440	CD/917 CD/CW/ WP.243	Belgium	National trial inspection	17.4.89
441	CD/919 [EXTRACT]	Bulgaria	Letter dated 7 June 1989 addressed to the President of the Conference on Disarmament from the Charge D'Affaires, Deputy Permanent Representative of the People's Republic of Bulgaria transmitting the text of the declaration of the President of the State Council of the People's Republic of Bulgaria and the Prime Minister of the Republic of Greece signed on 23 April 1989	9.6.89
442	CD/921 CD/CW/ WP.245	UK	Verification of the chemical weapons convention: Practice challenge inspections of military facilities	14.6.89
443	CD/922 CD/CW/ WP.250	USA	Report on a United States national trial inspection exercise	22.6.89
444	CD/926 [EXTRACT]	Nether-lands	Letter dated 20 June 1989 addressed to the Secretary-General of the Conference on Disarmament by the Representative of Netherlands, forwarding documents	22.6.89

Serial	Reference	Country	Description	Date
			adopted at the meeting of the North Atlantic Council in Brussels on 29 and 30 May 1989	
445	CD/924 CD/CW/ WP.251	Nether- lands	Report on a national trial inspection	23.6.89
446	CD/925 CD/CW/ WP.252	Nether- lands	An attempt to verify non-production in a chemical plant	23.6.89
447	CD/930 [EXTRACT]	FRG	Letter dated 6 July 1989 addressed to the President of the Conference of Disarmament by the Representative of the Federal Republic of Germany transmitting the text of the Joint Statement of 13 June 1989 signed in Bonn by the Chancellor of the Federal Republic of Germany and the General Secretary of the Central Committee of the Communist Party of the Soviet Union and Chairman of the Supreme Soviet of the Union of Soviet Socialist Republics together with the text of the Joint Declaration adopted on 14 June 1989 in Bonn by the Minister for Foreign Affairs of the Federal Republic of Germany and the Minister for Foreign Affairs of the Union of Soviet Socialist Republics	12.7.89
448	CD/931 [EXTRACT]	USSR	Letter dated 5 July 1989 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting the text of the Joint	12.7.89

Serial	Reference	Country	Description	Date
			Statement signed at Bonn on 13 June 1989 by M.S. Gorbachev, General Secretary of the Central Committee of the CPSU and President of the USSR Supreme Soviet, and H. Kohl, Chancellor of Federal Republic of Germany, and the text of the Joint Declaration by the Ministers for Foreign Affairs of the USSR and the Federal Republic of Germany adopted at Bonn on 14 June 1989	
449	CD/932	Finland	Letter dated 11 July 1989 addressed to the Secretary General of the Conference on Disarmament from the Permanent Representative of Finland transmitting a document entitled "Standard operating procedures for the verification of chemical disarmament, D.2, Second proposal for procedures supporting the reference database"	12.7.89
450	CD/934 [EXTRACT]	Romania	Letter dated 13 July 1989 addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of the Socialist Republic of Romania transmitting the text of a communique of the Meeting of the Political Consultative Committee of the Warsaw Treaty States together with the text of a document entitled "For a stable and secure Europe free from nuclear and chemical weapons, for a substantial reduction of armed forces, armaments and military spending"	19.7.89

Serial	Reference	Country	Description	Date
451	CD/936	Norway	Verification of alleged use of chemical weapons: A new approach for verification procedures	21.7.89
452	CD/940	Norway	Letter dated 31 July 1989 addressed to the President of the Conference on Disarmament from the Charge d'Affaires a.i. of Norway, transmitting a research report entitled "Verification of a chemical weapons convention: Headspace gas chromatography: A new technique in verification of alleged use of chemical warfare agents. Part VIII"	31.7.89
453	CD/947	Canada	Letter dated 9 August 1989, addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of Canada transmitting a report issued as Arms Control Verification Paper No. 3, entitled "International Atomic Energy Safeguards as a model for verification of a chemical weapons convention"	9.8.89
454	CD/948 CD/CW/ WP.260	Austria	Letter dated 10 August 1989 addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of Austria transmitting a document entitled "Preliminary report on an Austrian National trial inspection"	14.8.89
455	CD/949 CD/CW/ WP.261	Czechoslovakia	Data relevant to the convention on the complete and general prohibition and destruction of chemical weapons	15.8.89

Serial	Reference	Country	Description	Date
456	CD/950 CD/CW/ WP.263	FRG	Report on a national trial inspection to test the validity of a proposed format for ad hoc on-site verification	17.8.89
457	CD/951	Group of 21	Statement by the Group of 21 on the government-industry conference against chemical weapons	17.8.89
458	CD/952	AHCCW	Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament	18.8.89
459	CD/955 [EXTRACT]	AHCCPD	Report of the <u>Ad Hoc</u> Committee on the Comprehensive Programme of Disarmament	24.8.89

CONFERENCE ON DISARMAMENT

CD/907

23 March 1989

Original: ENGLISH

LETTER DATED 22 MARCH 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE OF AUSTRALIA TRANSMITTING A DOCUMENT ENTITLED "PROVISION OF DATA RELEVANT TO THE CHEMICAL WEAPONS CONVENTION"

The Australian Government welcomes the move to greater openness by all States about their chemical production and facilities, as a contribution to greater confidence which will help move the CWC negotiations forward.

In Australia, the areas of the Department of Defence which have potential input to the data exchange exercise are the Materials Research Laboratory (MRL), Melbourne, and the three Services.

One of the functions of MRL is to conduct research on defence against chemical weapon agents, including therapy and prophylaxis, detection, decontamination, and development of chemical analysis methods for treaty verification. This research requires the use of laboratory quantities of some of the chemicals that are listed under Schedules 1, 2 and 3 in the current Rolling Text of the Chemical Weapons Convention (CD/874). Because of the small quantities of these chemicals that are synthesized and used at the Laboratory, it is anticipated that MRL will be covered by the arrangements for "Other Facilities" in the Rolling Text, rather than in the arrangements for a "Single Small Scale Production Facility".

In order to contribute to the negotiations on the Chemical Weapons Convention, Australia presents the attached data, based on document CD/828.

I should be grateful if you would take the necessary steps to circulate this letter and attachments as an official document of the Conference on Disarmament.

(Signed)

D.H. Reese
Ambassador

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), (3) above agreed thresholds.

Australia does not produce or store CW.

3. Types and names of CW agents produced.

The names of CW agents and other precursors on Schedules (2) and (3) produced or consumed in laboratory quantities at MRL are listed in Attachment 1.

Types of CW munitions stored; CW agents in bulk.

There are no CW munitions stored at MRL nor CW agents in bulk.

Names of chemicals on schedules (1), (2) and (3) produced in the chemical industry.

Listed in Attachment 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.

Australia does not require a CW destruction facility.

*/ The Royal Australian Air Force (RAAF) has recently become aware of a small amount of CW munitions at Maxwellton in Central Queensland. These munitions were left over from World War II when a disposal task was not fully completed at the end of the war. Disposal action on these old weapons will take place as soon as appropriate arrangements can be made.

Attachment 1

Schedule (1)

1. O-Alkyl alkylphosphonofluoridates

Sarin: 0-isopropyl methylphosphonofluoridate (107-44-8)
Somain: 0-pinacolyl methylphosphonofluoridate (96-64-0)
GE: 0-isopropyl ethylphosphonofluoridate
GF: 0-cyclohexyl methylphosphonofluoridate

2. O-Alkyl N,N-dialkylphosphoramidocyanidates

Tabun: 0-ethyl N,N-dimethylphosphoramidocyanidate (77-81-6)

3. O-Alkyl S-2-dialkylaminoethylalkylphosphonothiolates

VX: 0-ethyl S-2-diisopropylaminoethylmethylphosphonothiolate (50728-69-9)

4. Sulphur mustards

Mustard gas (H): bis(2-chloroethyl)sulphide (505-60-2)
0-Mustard (T): bis(2-chloroethylthioethyl)ether (63918-89-8)

5. Lewisites

Lewisite 1: 2-chlorovinyl dichloroarsine (541-25-3)

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)

8. Alkylphosonyldfluorides

DF (676-99-3)

To be discussed further

2. 3,3-Dimethylbutanol-2-01 (pinacolyl alcohol)
3. CS
4. CR

Schedule (2)

1. Chemicals containing one P-methyl, P-ethyl, or P-propyl (normal or iso) bond.

Dimethyl methylphosphonate
Diethyl ethylphosphonate
Methyl phosphonyl dichloride
Methyl phosphonous dichloride.

2. N,N-Dialkylphosphoramidic dihalides

N,N-Dimethyl phosphoramidic dichloride

To be discussed further

(1) The following compounds:

Bis(2-hydroxyethyl)sulphide	(thiodiglycol)
3,3-Dimethylbutanol-2-01	(pinacolyl alcohol)

Schedule (3)

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
Phosphorous (P III) Acid:

Trimethyl phosphite	(121-45-9)
Triethyl phosphite	(122-52-1)
Dimethyl phosphite	(868-85-9)
Diethyl phosphite	(762-04-9)
Sulphur monochloride	(19925-67-9)
Sulphur dichloride	(19545-99-0)

Attachment 2

ARTICLE VI - SCHEDULE 3 CHEMICALS

<u>Name</u>	<u>Source</u>
Phosphorous oxychloride	Manufactured
Phosphorous trichloride	Manufactured
Phosgene	Manufactured
Cyanogen chloride	Manufactured
Hydrogen cyanide (hydrocyanic acid)	Manufactured
Trichloronitromethane (chloropicrin)	Manufactured
Trimethyl phosphite	Imported
Triethyl phosphite	Imported
Dimethyl phosphite	Imported
Diethyl phosphite	Imported
Mono Sulphurdichloride	Distributed
OTHER PRECURSOR CHEMICALS	
Trisethanolamine	Manufactured
Hydrofluoric acid	Manufactured
2-chloroethanol	Manufactured and exported

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Chemical Weapons Convention

Ad Hoc Inspections

1. Considerable progress has been made towards developing a layered pattern of on-site inspection to cover the widely varying facilities and activities which could put at risk the objectives of the Convention. The United Kingdom delegation welcomes the ideas which have been put forward in the negotiations by a number of delegations to strengthen these verification provisions, and would like to contribute to the debate by putting forward an alternative option. This paper suggests an inspection system to be added to the existing provisions in CD/881, thus completing the on-site inspection framework in a cost-effective manner.

2. The text of CD/881 contains the following provisions for mandatory on-site inspection:

(a) Routine inspection initiated by the Technical Secretariat, on the basis of annual declarations by States Parties, for:

- Chemical weapons stocks to check declarations and monitor destruction.
- Chemical weapons production facilities to check mothballing and certify destruction.
- Production of proscribed super toxic chemicals for permitted purposes at permitted facilities.
- Non-production by the civil industry of high risk chemicals (Schedules [2] and [...]).

(b) Challenge inspection, by which each State Party has the right to request an on-site inspection in order to clarify doubts about compliance.

3. In addition the text in CD/881 contains a procedure for one State Party to request clarification from another State Party via the Executive Council, but this stops short of reference to on-site inspection or mandatory obligation on the requested State.

WEAKNESSES IN INSPECTION FRAMEWORK

4. The text of CD/881 as at present envisaged does not apply routine on-site inspection to a number of areas, some of them of major importance for the viability of the Convention. The areas are:

- (i) Schedule [3] chemicals, i.e. those produced on a large industrial scale for legitimate purposes but posing a substantial risk to the Convention as being usable either directly as chemical weapons or as precursors for manufacture of chemical weapons. These are at present to be monitored through unchecked annual declarations. Hundreds of such facilities exist.
- (ii) Undeclared industrial chemical facilities. A very considerable proportion of the world's chemical industry would not, under the text in CD/881, be covered by annual declarations by States Parties or by routine inspections. Yet modern industrial practices could make it increasingly easy for such facilities to be used for activities contrary to the Convention, should a State Party so decide. Many thousands of such facilities exist.
- (iii) Undeclared military and other facilities. Apart from the categories listed in paragraph 2 (a) above, no provision is made in CD/881 for routine inspection of military facilities. Yet such facilities could play a crucial role should any State Party wish to establish a clandestine chemical weapons capability. Thousands of such facilities exist.
- (iv) Undeclared activities in facilities subject to declaration and routine inspection. Even with the level of inspection already provided in such cases, it is open to doubt whether, given the high risk to the Convention involved, adequate assurance would be provided that the facilities concerned were not being used for clandestine chemical weapon purposes. Hundreds of such facilities exist.
- (v) Certain other facilities under article III.1 (c) of CD/881. These are at present to be declared but not subject to routine inspection. This category perhaps poses less of a risk to the Convention than the others mentioned above, but some delegations have expressed concern about their exclusion from the inspection framework. Hundreds of such facilities exist.

5. These factors indicate that the framework for on-site inspection in CD/881 should be strengthened. Any solution needs to provide adequate reassurance and deterrence with respect to the huge number of facilities in question. It needs to do so in a way which does not prejudice those elements of the inspection framework already existing in CD/881. And it needs to be cost-effective. The question is how this can best be done.

ELEMENTS FOR A SOLUTION

6. A number of possible solutions have been suggested, which have made valuable contributions to thinking on this subject. One approach, proposed by the Federal Republic of Germany in CD/CW/WP.183 and 210, is for a verification procedure based on ad hoc checks. The United Kingdom delegation would like to suggest an alternative option which owes much to the Federal Republic of Germany's ideas. It also draws on experience in operating the inspection system established under the Stockholm Document which can be summarized as follows.

7. The Stockholm Document, produced by the Conference on Disarmament in Europe in 1986, outlines a number of politically binding confidence and security building measures for the 35 participating States. In connection with the notification of certain military activities the Document specifies that each participating State has the right to conduct inspections on the territory of any other participating State. Such inspections shall not exceed three in any one calendar year in any one State, and no State should be obliged to accept more than one inspection in any one calendar year from any single State. Within these quotas the inspections are mandatory. The inspection request has come to be recognized as non-confrontational and the system has proved to be effective in establishing confidence that Stockholm Document obligations are being observed. Suitably amended, this type of inspection could have value in the context of the Chemical Weapons Convention.

PROPOSAL

8. Building on previous proposals by the Federal Republic of Germany and others and on the provisions of the Stockholm Document, the United Kingdom delegation suggests that the current verification framework might be complemented by provision for an additional on-site inspection system on the following lines:

- Each State Party would have the right to initiate inspections by the Technical Secretariat in civil and military facilities and elsewhere on the territory of any other State Party.

- These requests would not be linked to any allegation of breach of the Convention.
- Each State Party would have the right to make [...] requests a year and would be obliged to receive a total of [...] inspections a year. Access to the site would be mandatory within a given number of hours. This quota system is one aspect distinguishing ad hoc from challenge inspection.
- The purpose of the inspection would be to check whether any activity in the facility concerned was subject to declaration or prohibition under the terms of the Convention.
- The inspection would be carried out by inspectors from among the full-time inspectorate of the Technical Secretariat. Procedures for the conduct of the inspection (i.e. its format) would differ from those for routine inspections listed in paragraph 2 (a) above and for challenge inspection. There would, for example, be no "facility attachment" and there might be no need for an observer from the requesting State to accompany the Inspection Team.
- The Technical Secretariat would inform all States Parties that the inspection had taken place and of their findings.

9. In addition it would be open to any State Party or group of States Parties to reach agreement with another State Party or group of States Parties to establish a bilateral system of inspections of the same or similar character; the cost of this would be met by the Parties concerned.

10. The system described above might be called "Ad Hoc Inspections". It would operate alongside the two other procedures - routine inspections listed in paragraph 2 (a) above and challenge inspection - both of which would remain crucial elements of the verification régime.

ADVANTAGES OF AD HOC INSPECTIONS

11. It is suggested that Ad Hoc Inspections would have the following advantages:

- (i) The inspection régime proposed in this paper would complete the on-site inspection framework with a manageable number of régimes.
- (ii) Nomination by States Parties would focus attention on facilities of most concern both to the Convention and to the requesting States Parties.

- (iii) The level of reassurance and deterrence would be further enhanced by the mandatory nature of the inspection request and to the very short advance warning.
- (iv) The targeted nature of the system would enable the vast numbers of facilities involved to be subjected to verification at a high level of cost-effectiveness.
- (v) The annual quota available to each State Party and the absence of expressed doubts about compliance would give the system a routine character.

12. The attached table gives an overview of the inspection framework including Ad Hoc Inspection.

13. The United Kingdom delegation much welcomes the serious consideration being given in the Conference on Disarmament to the problem posed by shortcomings of the inspection framework. Constructive suggestions have been made by several delegations and more may well be forthcoming. All options deserve to be considered carefully. The United Kingdom delegation hopes that the alternative idea of Ad Hoc Inspections described in this paper will contribute to the ongoing search for a solution which will help to ensure an effective verification régime for the future Convention banning chemical weapons.

CONFERENCE ON DISARMAMENT

CD/910
CD/CW/WP.234
5 April 1989

Original: ENGLISH

LETTER DATED 4 APRIL 1989 ADDRESSED TO THE SECRETARY-GENERAL OF
THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE
OF AUSTRALIA TRANSMITTING A DOCUMENT ENTITLED
"REPORT OF AN AUSTRALIAN NATIONAL TRIAL INSPECTION"

I have the honour to submit the text of the report of an Australian
National Trial Inspection, which was conducted at a multipurpose complex of an
agricultural chemical company. The Report is based on the format contained in
document CD/CW/WP.213.

I should be grateful if you could make the necessary arrangements to have
this report distributed as an official document of the Conference on
Disarmament and of the Ad hoc Committee on Chemical Weapons.

(Signed) D.H. Reese
Ambassador

REPORT OF AN AUSTRALIAN NATIONAL TRIAL INSPECTION
BASED ON THE PROVISIONS OF THE ANNEX TO ARTICLE VI [2]

Introduction

The future Convention will ban the development, production, stockpiling, transfer and use of chemical weapons. It is recognised that it will be necessary to monitor the civilian chemical industry to ensure that chemical weapons are not produced or their precursors diverted for purposes prohibited by the Convention. In order to expedite work on the Convention and to develop and assess provisions relating to on-site inspections, to provide the necessary assurance that civil facilities are used only for purposes not prohibited by the Convention, Australia and The Netherlands conducted Trial Inspections of chemical facilities in 1986 and reported their results to the Conference on Disarmament (CD/CW/WP.140 and CD/CW/WP.141 to 144). The experience gained from these inspections strengthened the view that an adequate system of verification can be developed and obtained at a reasonable cost, taking into account the legitimate concerns of the chemical industry. These results have been reflected in the subsequent development of Article VI of the Rolling Text.

In April 1988, the Delegation of the Soviet Union suggested that interested Delegations of the CD should conduct National Trial Inspections (NTI) based on the provisions of the Annex to Article VI [2], and then report the results to the CD. These results could then be discussed and, using the lessons learnt, a second round of inspections be conducted, this time in the presence of "international observers" from other delegations participating in the experiment.

During the summer session of 1988, informal open-ended consultations were held in the CD to prepare for these multilateral trial inspections in the chemical industry. The result of these consultations, contained in document CD/CW/WP.213, were introduced to the Conference at its plenary meeting on 13 September 1988, to assist the participating States in their preparations for the national trial inspections.

Preparations for the Australian NTI were made on the basis of CD/CW/WP.213, and conducted over a six-week period during October/November including an initial visit and the negotiation of a detailed Facility Attachment. The NTI was conducted at a multipurpose complex of an agricultural chemical company that produces mainly herbicides. This working paper presents the results of this NTI on the basis of the format contained in document CD/CW/WP.213.

A. GENERAL APPROACH

1. Objectives of the NTI

The objectives of the NTI were those set forth in CD/CW/WP.213.

2. Provisions in the Draft Convention under which the NTI took place.

The NTI was conducted in accordance with the provisions contained in the Annex to Article VI [2].

3. Type of On-Site Inspection

This was a routine on-site inspection based on the Annex to Article VI [2]. Prior to this inspection, an initial visit was made for familiarisation purposes, for negotiation of the Facility Attachment and determination of the inspection plan.

4. Advance Information

4a. Declarations

The company made the relevant declarations as outlined in paragraphs 1, 2 and 3 of the Annex to Article VI [2].

4b. Agreement on Inspection Procedures

After the initial visit, a controller group negotiated and elaborated a Facility Attachment based on the "Model for an agreement relating to facilities producing, processing, or consuming chemicals listed in Schedule [2]" (CD/874. pp. 125-128). Specific comments and suggestions for improvements to the "Models for Agreement", including a checklist for relevant information, are given in Annex 1 of this report.

5. Type of Facility inspected

The facility inspected is a multipurpose facility that is part of a complex. The major purpose of the facility is the production of Trifluralin (1582-09-8) and other herbicides.

6. Type of Declared Activity at the Facility

At present, the company produces no chemicals currently listed under Schedule [2] of the Rolling Text. For the purposes of the inspection, "Dinitro" (2-chloro, 1, 3-dinitro-5-trifluoromethyl benzene (393-75-9)) was treated as a Schedule [2] chemical. The declared activity at the facility during the inspection was the production of Trifluralin herbicide from Dinitro.

7. Actual Activity at the Facility

The production of the Trifluralin herbicide is seasonal. At the time of the familiarisation visit, the declared facility was involved in other production activities. The company arranged for a batch of Trifluralin to be produced

B. DETAILED APPROACH

1. The Inspection Mandate

A controller group negotiated the inspection mandate and the Facility Attachment. This group consisted of the company's chief chemist and manufacturing manager, an official from the Department of Foreign Affairs and Trade (DFAT), and a defence scientist from the Department of Defence Materials Research Laboratory (MRL). It negotiated, inter alia:

- areas to which the inspectors had access;
- records to be made available to the inspectors;
- services and operations to be provided by company personnel upon request;
- the right for inspectors to supervise company personnel performing such operations.

There was also discussion on whether the inspectors should have the right to have access to areas not specified in the facility attachment, and to have samples taken at sampling points not specified. This is discussed in items C1 and C15.

2. Composition of the Inspection Team

The inspection team consisted of five persons:

- a senior official from DFAT;
- a defence scientist from MRL;
- a chemical engineer nominated by the company being inspected;
- an inspector from the Dangerous Goods Branch of the Victorian State Government Department of Labour; and
- an auditor (qualified accountant) from DFAT.

3. Inspection Equipment

The inspection equipment was provided by MRL and is listed in item C3.

4. Activities Prior to the Arrival of the Inspection Team On-site

The initial visit and negotiation of a detailed Facility Attachment were undertaken over a six-week period prior to the inspection. The date of the inspection was chosen for mutual convenience.

5. Advance Preparation On-site

As discussed in item A7, the company arranged for the delivery of Dinitro feedstock chemical and the production of a batch of Trifluralin for the purpose of the inspection. No further preparations on-site were undertaken.

6. Escort and Points of Contact Arrangements

The company designated points of contact and informed the relevant personnel prior to the inspection. Contact persons were nominated in the Facility Attachment; the inspectors met these personnel during the opening conference. During the inspection, the company provided selected staff to act as escorts.

7. Other Participants

During the NTI, there were observers from:

- the Department of Defence (Policy Branch);
- MRL;
- the Department of Industry Technology and Commerce;
- a national newspaper (a journalist with a chemical background).

8. Duration of Initial Visit and Inspection

- Initial Visit: 2 hours (Effort: 4 persons)
- Preparation of Facility Attachment: Two half-days (4 persons)
- Inspection (Actual visit): 2 days (day 1: 2 persons, Day 2: 5 persons)
- Chemical analysis : 1 day (3 persons)
- Inspection Report (preparation): 1 day (3 persons).

9. Measures to Protect Confidential Information

Pending agreement in the Conference on Disarmament on measures to protect confidential information, the four-level classification system then under consideration in Working Group A was used as a basis for discussion with the company. Reference to this system of classification has since been included in Appendix II (page 139) of the current Rolling Text.

The company specified which types of information it considered came under the four levels, viz:

- (a) Releasable to the public;
- (b) Releasable to 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.

Agreement was reached on which information came under the four levels, and the necessary arrangements were made to ensure that confidential information was handled appropriately during the inspection.

10. Opening Conference

During the opening conference, the leader of the inspection team outlined to participants and observers the purpose of the NTI. He described in detail the proposed inspection activities and specified services that were likely to be needed from the company. A company representative discussed the current activities at the facility and safety regulations to be observed. The opening conference lasted about one and a half hours.

11. Types of Records needed and/or audited

The company keeps accurate and complete records of the designated feedstock chemical, which is imported. The records made available to the inspection team included:

- placement of orders with overseas suppliers;
- payment advice;
- import documentation/customs clearance;
- receipt at company store (off-site);
- receipt at production site;
- batch production sheets (including quantities of feedstock chemicals and products, chemical analysis/quality control of product);

- health hazard data sheets;
- material safety data sheets;
- receipt of product at company store;
- sale and despatch advice.

12. Plant Orientation Tour

The plant orientation tour encompassed the facility and the surrounding complex, including the analytical laboratory.

13. Inspection of Areas and Facility Equipment

The following facility areas were inspected in detail:

- feedstock storage;
- feed lines to reaction vessel;
- the external aspect of the reaction vessel and associated control equipment, including the control room;
- product transfer lines;
- product storage vessel;
- formulation and filling equipment;
- quality control sampling points;
- waste/effluent lines.

During the negotiation of the Facility Attachment, the company agreed that the trial inspection could be recorded with a video camera, on the condition that the resulting video-tape be classified at level (d) Available to inspectors only - not to be removed from the company premises.

The video recording included the aspects of the facility outlined above, and the operations outlined in item B14.

14. Inspection of Operation Procedures

Inspectors observed the following operations:

- transfer of feed chemicals to reaction vessel;
- transfer of product to storage vessel;
- formulation of commercial product and loading into 20 L containers.

During the inspection, inspectors paid special attention to any details that may have suggested that the company was involved in undeclared activities. No such details were observed.

15. Sampling and Sample-taking Procedures

The sample-taking was performed by company personnel, in the presence of inspectors, at the sampling points that had been agreed on during the negotiation of the Facility Attachment. In each case, two samples were taken - one for off-site analysis and one to be retained by the company. These samples were:

- feed chemical (Dinitro) being transferred to the reaction vessel;
- production in reaction vessel at conclusion of production process;
- formulated product.

The company also agreed to:

- use of a vapour monitor at the facility to check for the absence of Schedule [1] chemicals. The vapour monitor was also adapted to respond to Dinitro (see Annex 3);
- taking of air samples at the facility during the production process;
- sampling the water that was used to flush the reactor vessel after the product had been transferred to the storage tank.

16. Handling of Samples

The handling of samples was negotiated as part of the Facility Attachment. The inspectors supervised both the sample-taking and the handling of samples on-site. The samples to be analysed off-site were placed in a metal storage container fitted with a lock and seal. This was taken by "safe-hand" to the agreed analytical laboratory (MRL), and signed over to the custody of a senior government scientist who was responsible (under the provisions of the Official Secrets Act) for the security of the samples and the subsequently obtained analytical data.

17. Analysis of Samples

Reference samples of food chemical (Dinitro), product (Trifluralin), and formulated product were provided by the company during the negotiation of the Facility Attachment. This enabled the analytical chemists at MRL to develop and/or refine the appropriate methods for the analysis of the declared chemicals.

Analysis of the reference samples of Dinitro and Trifluralin by gas-chromatography/mass spectrometry (GC/MS) confirmed that they were authentic samples (based on comparison with standard reference mass spectra). Visible absorbance spectroscopy was used to confirm that the reference sample of the formulation contained the concentration of Trifluralin that was indicated on the batch production sheet.

The analysis of the samples that were obtained during the inspection was performed on the day after the inspection.

18. Types of Analyses

As agreed by the company during the negotiation of the Facility Attachment:

- the feed chemical and product were analysed by AGC/MS to confirm that they were the declared chemicals;
- the formulated product was analysed by nuclear magnetic resonance (NMR) spectroscopy to confirm that it was the standard formulation;
- the air and water samples were analysed by GC/MS to confirm that no undeclared Scheduled chemicals had been sampled.

19. Documentation of the Inspection

A report was prepared by the inspection team. Analytical results obtained at MRL were appended to this inspection report, which was taken from MRL to the company premises by "safe-hand", and discussed with the chief chemist and manufacturing manager.

20. Evaluation by Inspectors

The evaluation of inspection activities and information gathered during the inspection included the following aspects:

- the possibility for undeclared conversions between routine inspections;
- the extent and accuracy of the data provided by the company;
- the co-operation displayed by the company;
- any difficulties encountered during the inspection.

An important part of the evaluation process in the NTI was the subsequent discussion on these aspects with the chief chemist and the manufacturing manager.

21. Closing Conference

The closing conference lasted approximately one hour, and discussed the aspects outlined in item B20.

22. Anomalies, Disputes and Complications

There were no anomalies, disputes or complications.

23. Report of the Inspection Team

The inspection report included:

- an account of the actual inspection activities;
- results of the audit/materials balance;
- results of the analyses;
- lessons learnt during the inspection;
- conclusions.

The report was prepared off-site during the week following the inspection.

24. Impact of the Inspection on Facility Operations

The NTI did not result in any actual production losses, but the company's chief chemist and manufacturing manager spent approximately 2 days each assisting with the negotiation of the Facility Attachment and a total of 2 days during the inspection. Other company personnel also assisted during the inspection (6 working-days).

25. Other Matters.

C. SPECIFIC ASPECTS - CONCLUSIONS

1. The Inspection Mandate

As currently stated in Annex to Article VI [2], it is the facility that is producing, processing or consuming the Schedule [2] chemical that is subject to inspection - not the whole chemical complex that the facility may be part of. The controller group negotiated the inspection mandate and Facility Attachment on this basis - limited the inspection to items (i) to (viii) of paragraph 13 in Annex to Article VI [2].

During the inspection, one inspector requested access to another facility in the complex. The company's initial response was to point out that since this request had not been previously negotiated, it would be reluctant on the day, for both safety and proprietary reasons, to allow an inspection of this other facility. However, the company agreed that the inspection team could take an air sample from this other facility, provided the sample was then analysed on-site using negative proof methods to indicate that the sample did not contain any Scheduled chemicals.

2. Composition of the Inspection Team

The team chosen for the trial inspection included a senior official from DFAT with a background in disarmament policy issues (team leader and key spokesperson), a defence scientist who has assisted with the work of the Ad Hoc Committee on Chemical Weapons in Geneva, and a qualified accountant with extensive auditing experience. This team was found to be very suitable for the trial inspection.

The most time-consuming part of the inspection was the auditing. Based on the time taken to examine a selected number of records during the trial inspection, we estimate that it may take 4 to 5 man-days to conclude a complete audit of the documentation relevant to a declared Schedule [2] chemical. Depending upon the complexity of use of the declared chemical within the facility (and possibly in other facilities within the same complex - see item C22), and the level of detail of the audit, a team consisting of:

- one chemist;
- one chemical analyst;
- one chemical engineer; and
- two auditors

may be necessary if the inspection is to be completed in less than a week.

3. Inspection Equipment

The trial inspection used the following equipment;

- a lockable metal storage container for safe handling of samples to the off-site laboratory;
- sample bottles for samples of feed chemical, product, formulated product and water samples;
- air sampling tubes (containing Tenax GC absorbent) and a battery powered air sampling pump;
- vapour monitor (see Annex 3).

4. Activities prior to the arrival of the inspection team on-site

The major activity by the company was the acquisition of a special batch of the feed chemical for use during the trial inspection.

5. Advance Preparations On-site

The company arranged for a room to be available for the opening and closing conferences, and provided lunch for the inspection team and observers.

6. Escort and Point of Contact Arrangements

These arrangements worked smoothly. The co-operative attitude of the company escorts greatly facilitated the inspection. The presence of company escorts did not interfere with the conduct of the inspection.

7. Other Participants

A number of observers were present during the NTI. There would not normally be observers during a "real" inspection, unless there were provisions in the Rolling Text for specific arrangements to that effect.

8. Duration of Initial Visit and Inspection

The duration of the initial visit and negotiation of the Facility Attachment will depend on the size and extent of activities of both the declared facility and the complex - a total of 5 days would seem to be a reasonable time to allow for most facilities.

As discussed in item C2, the time required for the actual inspection will depend on the composition of the inspection team. The physical inspection (Plant Orientation Tour, sample-taking and vapour monitoring) may take only 1 to 2 days. With only one auditor, the audit inspection would require more time.

9. Measures to Protect Confidential Information

The company agreed that the four level classification system for confidential information was useful. During the negotiation of the Facility Attachment, agreement was reached on which information came under each of the four levels, and the necessary arrangements were made to ensure that confidential information was handled appropriately during the inspection.

The company was particularly concerned with level (d), that is, "available to inspectors only - not to be removed from the company premises". For example, the company provided each inspector with a copy of the site-plan of the complex, and a detailed flowchart for the production of Trifluoralin - on the understanding that it contained company confidential information. These documents were not to be removed from the company site, and were to be returned to the chief chemist at the conclusion of the inspection.

Other information to be covered under level (d) may include:

- customer, buyer product reports;
- purchase price of feedstock chemicals;
- works manufacturing costs;

- annual consumption/production; and
- capacity of reaction vessels.

The company should be offered the option of including these types of information in level (d).

10. Opening Conference

The length of time required for the Opening Conference will depend on several factors, including:

- the size and complexity of the facility;
- whether the facility has previously been inspected;
- whether any of the inspectors are at the facility for the first time.

However, one hour would usually be expected to be sufficient time to cover the necessary details.

11. Types of Records needed and/or Audited

As discussed in item B11, the company keeps accurate and complete records of the feed chemical, product and formulation. These records were made available to the inspection team.

The overall conclusion was that the trial audit inspection did not provide proof that the company's annual declaration was completely accurate. Rather, the conclusion was that all of the records examined were consistent with the company's declaration, and that no information was obtained during the audit to suggest that any undeclared activities were taking place, or that there was any diversion of the Scheduled chemical from the declared production process.

In this inspection, the Schedule [2] feed chemical was only used in one facility and for the production of a single product with a consistent high yield. The audit inspection would be complicated if the feed chemical was used in more than one facility and/or for the production of several products - especially if the products were produced with variable yields.

12. Plant Orientation Tour

The plant orientation tour, using the site-plan provided by the company, took approximately 30 minutes. This tour was useful because it enabled the inspectors to become familiar with the physical location of the facility and its associated equipment, within the complex.

13. Inspection of areas and facility equipment

The inspection of the areas and equipment listed in item B11 were judged by the inspection team to be sufficient to enable them to conclude that the declared chemical process was taking place, and that no undeclared activities were taking place, at the time of the inspection.

The inspection team considered that the availability of a video recording the first inspection would be of considerable value during subsequent inspections, for example to:

- facilitate the detection of any undeclared changes in the facility; and
- clarify any ambiguities with respect to sample-taking.

14. Inspection of Operation Procedures

By prior arrangement, inspectors were present to observe the transfer of feedstock chemicals to the reaction vessel and the commencement of the production process (day 1), and the transfer of the product to the temporary storage vessel and formulation equipment (day 2).

15. Sample and sample-taking Procedures

The sample-taking procedures have been discussed in item B15. The company was agreeable to have samples of feed chemical, product and formulation analysed - on the basis that any person could purchase the same chemicals from a commercial supplier and then analyse them. Sampling of these chemicals was also convenient for the company because the same chemicals are routinely sampled and analysed by company personnel for quality-control purposes. For the same reasons, the company had no objection to the inspection team collecting air and water samples.

However, the company did not want samples taken from the reaction vessel during the production process because:

- the company could see no reason why any additional analytical information would be needed in addition to the information from the samples of feed chemicals and products;
- the analysis results of intermediates of the production process may have provided technical secrets that the company used to optimise their process;
- taking the sample would have caused safety or technical problems (eg. loss of production).

The company agreed to the use of a vapour monitor at the facility and the feed chemical storage area being inspected, and in other feed chemical storage areas and product storage areas during the Plant Orientation Tour (see Annex 3).

16. Handling of Samples

The company was agreeable to the method of handling samples as outlined in item B16. The safe-hand procedures used during the inspection addressed the concerns of the company regarding the protection of technical information that may have been obtained for the samples.

17. Analysis of Samples

The availability to the analytical laboratory of reference samples of the feed chemicals, product and formulation chemicals prior to the inspection greatly facilitated the analysis of the samples obtained during the actual inspection.

18. Types of Analysis

As discussed in items B18 and C15, the company was agreeable to the samples of feed chemical and product being analysed by GC/MS, and in this instance did not regard the analysis results as "sensitive information".

The choice of NMR analysis for the formulation was for technical reasons:

- the objective was to confirm that the formulation was at "normal strength", rather than to identify the other components of the formulation. This objective was readily achieved using NMR;
- some of the components in the formulation may have degraded the gas chromatography column.

As discussed in item A7, the production of Trifluralin herbicide is seasonal - the declared facility is involved in other production activities for some of the year. At the time of negotiation of the Facility Attachment, the company had no objections to samples of feed chemical and product from the other production processes being analysed by GD/MS. However, if the company commenced to use the declared facility for a novel production process, the company may wish to renegotiate this aspect of the Facility Attachment. In the case of a novel production process, the company indicated that there may be sensitivity regarding the actual composition of the samples taken. A preferred approach could be on-site analysis using negative proof methods to indicate that at the time of inspection no Scheduled chemicals were being used.

19. Documentation

The philosophy adopted during the negotiation of the Facility Attachment, conduct of the inspection and subsequent preparation of documentation was that the company be consulted on the level of confidentiality before the release of any information.

In addition, reports on the inspection were to be cleared with the company before their distribution.

The knowledge that their commercial and technical secrets were not being put at risk was no doubt a major factor in the cooperative attitude taken by the company throughout the trial inspection exercise.

20. Evaluation by Inspectors

The inspection team concluded that it was important that they should have the opportunity to have informal discussions amongst themselves during the inspection, should the need arise. The availability of a designated room for this purpose was found to be of value.

The evaluation of the inspection consists of several inter-related activities, including the physical inspection, sampling and chemical analysis, and the audit inspection. There will need to be co-ordination of these efforts during the actual inspection and up to the completion of the inspection report.

The inspection team concluded that the process of evaluation by inspectors would be assisted by the availability of clear guidelines and criteria by which they should evaluate the inspection.

21. Closing Conference

The closing conference of the trial inspection was used by the inspection team to discuss with the company the results of the sampling, vapour monitoring and audit. In a "real" inspection, the closing conference may take less time than one hour.

22. Anomalies, Disputes and Complications

The absence of anomalies, disputes and complications was due in part to the excellent attitude taken by the company, both during the negotiation of the Facility Attachment (an inadequate Facility Attachment may result in many complications) and during the actual inspection. The following technical factors were also relevant:

- the facility being inspected was well separated from other parts of the complex;
- the Schedule [2] feed chemical was only used in the one facility and for the production of a single product;
- the production process inspected was a single-stage process with a high yield.

23. Report of the Inspection Team

There may be a need for two types of report:

- (1) A report that the team sends to the Technical Secretariat. If there are no unresolved ambiguities, this report may be classified at:

- (a) level - Releasable to the public; or
- (b) level - Releasable to States Parties to the Convention.

An example of this type of report is given at Annex 4.

If there are ambiguities, then it may need to be classified at the (c) level - Limited to the Technical Secretariat.

- (ii) Depending on the complexity of the facility, and how well the Facility Attachment was prepared, the inspection team may wish to prepare a report to assist the inspectors who will next inspect the facility. This report may be at:

- (c) level - Limited to the Technical Secretariat; or

- (d) level - Available to inspectors only - not to be removed from the company premises.

24. Impact of the Inspection on Facility Operations

Provided agreement can be reached in the negotiation of the Facility Attachment that samples for analysis are taken at standard sampling points either before production has commenced and/or after production has finished, then there should be negligible disruption to the actual operation or safety of the facility.

As discussed in item B24, the major impact of the trial inspection on the facility operations was that it took senior company staff away from their normal duties:

- chief chemist (4 working days);
- manufacturing manager (4 working days);
- company accountant (1 working day).

Other company staff also assisted on an as-needed basis.

The demands placed on the chief chemist and manufacturing manager may be reduced in a real inspection. However, the audit inspection will cause disruption to the normal duties of accountants and company staff in the purchasing, stores, despatch and sales areas. Senior executives may also be involved in some aspects of the inspection.

25. Other Matters.

ANNEX 1

COMMENTS ON MODELS FOR AGREEMENT

This annex contains comments, made by the controller group during the negotiation of the Facility Attachment, on items 1 and 2 on the "Model for an agreement relating to facilities producing, processing, or consuming chemicals listed in Schedule [2]" (CD/874, pp. 125-128).

1. Identification of the facility

- (f) The controller group suggested that determination of the areas of access might also be made by identifying those areas outside the declared facility to which inspectors should have restricted access. Inspectors may determine that it is necessary to visit adjacent parts of the complex, for example, a nearby storage area, and should have such access except where there is prior agreement to restrict it.

The basis for and scope of such restrictions should be clearly spelt out in the Facility Attachment.

2. Information on the facility

The controller group considered that the information required in item 2 is wide-ranging and poorly targetted. A series of checklists which focus on matters of interest to the Inspectorate would permit faster and more complete preparation of the necessary details. This would assist facilities to prepare accurate returns, and minimise the scope for inadvertent omissions which could give rise to suspicions.

(a) Data on the production process

- continuous or batch
 - : seasonality of batch production
 - : percentage of time in operation
 - : use of the equipment in the off-season
- type of equipment

CD/CW/WP.140 provides a sample list of the type of equipment which may be relevant (reproduced as Annex 2). The following comments were suggested in the course of negotiating the Facility Attachment

- the Annex should address the size (within a range) of the reaction vessel

- item 7 on Annex 2 is not specific enough, and should include Hastelloy and teflon-lined piping

- item 8 on Annex 2 required reworking to specify the types of alarms on which the information is sought

- technology employed

: elements of a checklist could include:

- = approximate pressures
- = temperature capabilities
- = distillation
- = condensation

- process engineering particulars

: elements of a checklist could include:

- = specification sheets
- = a simplified process flow sheet

(b) and (c) Data on processing with conversion into another chemical; Data on processing without chemical conversion

- information required under (b) and (c) could be provided by means of a chart which records each step of the production process

: elements of a checklist could include:

- = raw material
- = intermediate product
- = conversion to product (%)
- = description of by-product (%)
- = overall yield
- = overall loss

This information would be under an appropriate level of confidentiality.

(d) waste treatment

: elements of a checklist could include

- = aerobic disposal
- = anaerobic disposal
- = biological disposal
- = on-site/off-site

(e) and (f) health and safety measures; clean-up and general overhauls

The controller group considered that these headings are too general, and may arouse sensitivities in relation to points not relevant to the CW Convention

: elements on a checklist could include:

- = central alarm system
- = emergency procedures
 - + evacuation
 - + drills
- = vessel entry procedures.

(g) feedstocks used in the production or processing of declared chemicals; types and capacity of storage

: elements of a checklist could include:

- = capacity
- = storage capacity
 - + flammable liquids
 - + above/below ground
- = number of storage points
- = distance of separation of storage
- = venting of storages

ANNEX 2

INFORMATION ON THE FACILITY - SUGGESTED CHECKLIST

Relevant Equipment (based on List B of CD/CW/WP.140)

1. Chemical process equipment (reactors, piping, distillation columns, etc.) constructed of Hastelloy or another alloy with a high nickel or tantalum content.
2. Chemical process equipment with linings suitable for use in a highly corrosive environment (i.e. glass-teflon, or plastic lined equipment).
3. Pumps or valves designed for use with hazardous chemicals (e.g. double-seal, magnetic drive, or canned pumps, bellows or diaphragm valves).
4. Activated carbon filter units and scrubber units capable of handling large volumes of air from ventilation systems.
5. Equipment specifically designed for fluorine, phosphorus, or sulphur analyses.
6. Inert gas generating units.*
7. Double-walled piping.
8. Sensitive toxic detection and alarm systems.
9. Filling equipment for use with hazardous chemicals, including specially large glove boxes used to enclose filling machinery.
10. Incineration or scrubbing equipment for hazardous chemical waste treatment, such as Venturi scrubbers or Brinks mist eliminators.

* It was agreed that this question should be more specific.

ANNEX 3

USE OF VAPOUR MONITOR DURING NATIONAL TRIAL INSPECTION

During the negotiation of the Facility Attachment, the company agreed that the inspection team could use a vapour monitor at the facility during the inspection to check for the absence of vapours of Schedule [1] chemicals. The monitor chosen was CAM (Chemical Agent Monitor) which responds to low concentrations of vapour of nerve and blister chemical warfare agents.

CAM was operated at the declared facility before, during and after the declared production process. The company also allowed the use of CAM in other feed chemical storage areas and product storage areas during the Plant Orientation Tour. The only restriction was that CAM was not allowed to be used in any flameproof areas because the inspection team did not know whether CAM has approval for use in "Class 1 Electrics" flammable atmospheres. At no time during the inspection did CAM give a nerve or blister agent response.

Another CAM was adapted so that it would respond to low concentrations of vapour of Dinitro feedstock chemical. This CAM was used in its adapted mode to check that:

- drums of Dinitro were correctly labelled (a response was obtained when the CAM sampling nozzle was held near the neck of the closed drums);
- the chemical being fed into the reaction vessel was Dinitro; and
- other drums with different labels did not contain Dinitro (this provided useful information supporting the information from the audit inspection).

The CAM was supplied by Graseby Ionics (UK), who advised the inspection team that they market an air vapour monitor similar to CAM, that can be adapted to give a response to the vapours of a range of chemicals listed in Schedules [2] and [3].

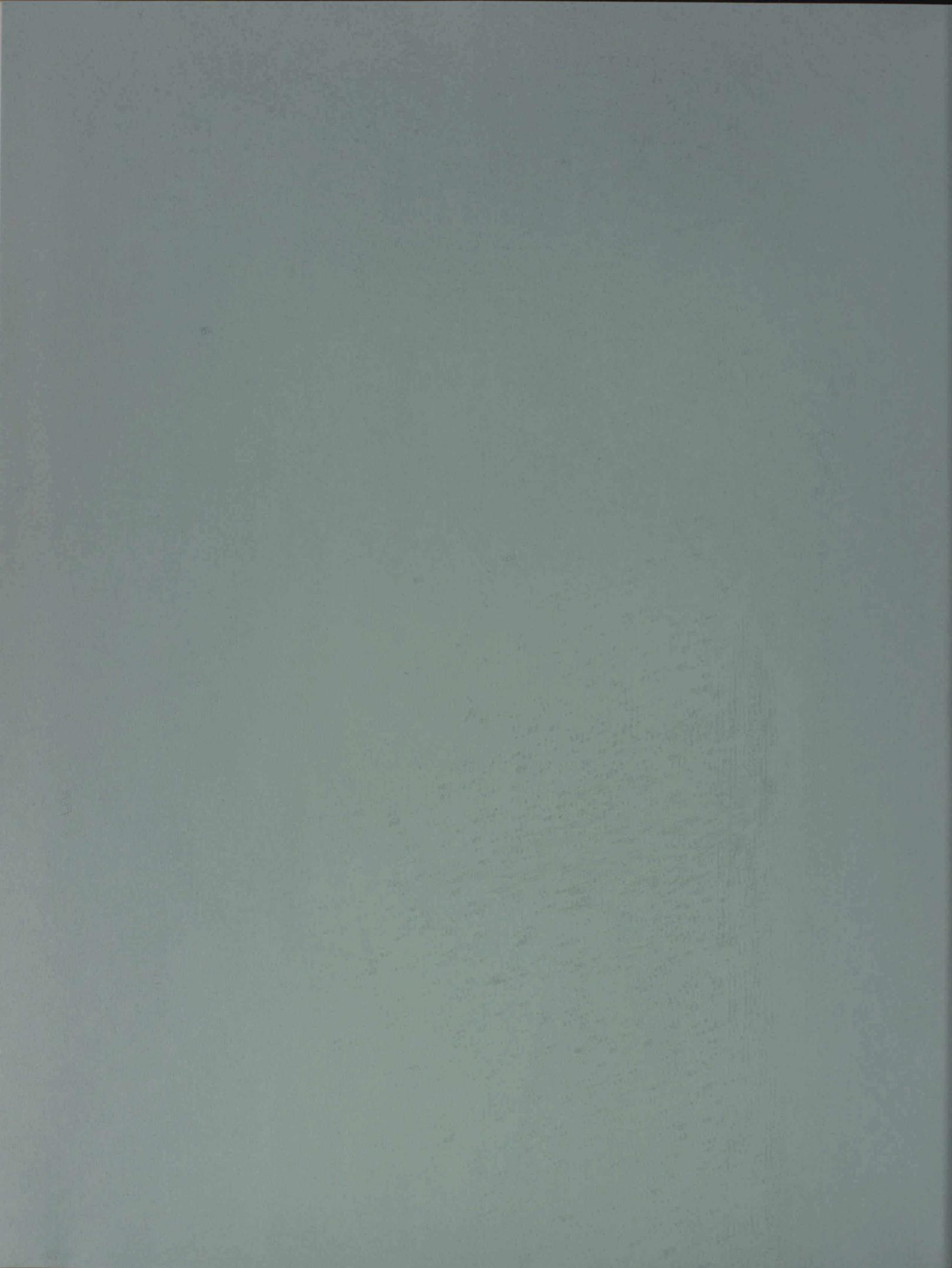
ANNEX 4

REPORT OF INSPECTION TEAM TO TECHNICAL SECRETARIAT

1. The declared facility was inspected on 17-18 November 1988 as outlined in the Facility Attachment.
2. A plant orientation tour enabled the inspectors to become familiar with the physical location of the facility, and the associated feedstock storage areas, within the complex.
3. Samples of feed chemicals, product and formulation were analysed at MRL. The analytical results were consistent with the initial and annual declarations of the company.
4. The audit results and the quantities of feed chemical and formulation on-site were consistent with the initial and annual declarations of the company.
5. During the inspection, the inspectors did not make any observations that may be suggestive of the company being involved in any undeclared activity.

REPORT OF INSPECTION TEAM TO TECHNICAL SECRETARIAT

The inspection team was composed of the following members: [illegible]
The inspection was conducted on [illegible] at [illegible].
The purpose of the inspection was to [illegible].
The inspection was conducted in accordance with the [illegible].
The inspection team observed the following [illegible].
The inspection team also observed [illegible].
The inspection team found that [illegible].
The inspection team also found that [illegible].
The inspection team recommended that [illegible].
The inspection team also recommended that [illegible].
The inspection team concluded that [illegible].
The inspection team also concluded that [illegible].



CONFERENCE ON DISARMAMENT

CD/911

5 April 1989

Original: ENGLISH

LETTER DATED 30 MARCH 1989 ADDRESSED TO THE ~~SECRETARY-GENERAL~~^{SECRETARY} OF THE CONFERENCE ON DISARMAMENT FROM THE DEPUTY PERMANENT REPRESENTATIVE OF CANADA TRANSMITTING COMPENDIA ON CHEMICAL WEAPONS COMPRISING PLENARY STATEMENTS AND WORKING PAPERS FROM THE 1988 SESSION OF THE CONFERENCE ON DISARMAMENT 1/

In his statement of 7 March 1989, before the Conference on Disarmament, Ambassador Marchand noted that the Canadian delegation would be making available to delegations the latest in the Canadian series of compendia of the plenary statements and the Working Papers concerning Chemical Weapons delivered during the 1988 Session of the Conference. I have the honour to inform you that these compendia are now available for distribution to the members of the Conference, and I should be grateful if the necessary arrangements could be made to proceed with this distribution.

Yours sincerely,

(Signed) A.W.J. Robertson
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.

CONFIDENTIAL - DISARMAMENT

THE CONFIDENTIALITY OF THE CONFERENCE ON DISARMAMENT IS A MATTER OF THE HIGHEST IMPORTANCE AND SHOULD BE MAINTAINED AT ALL TIMES.

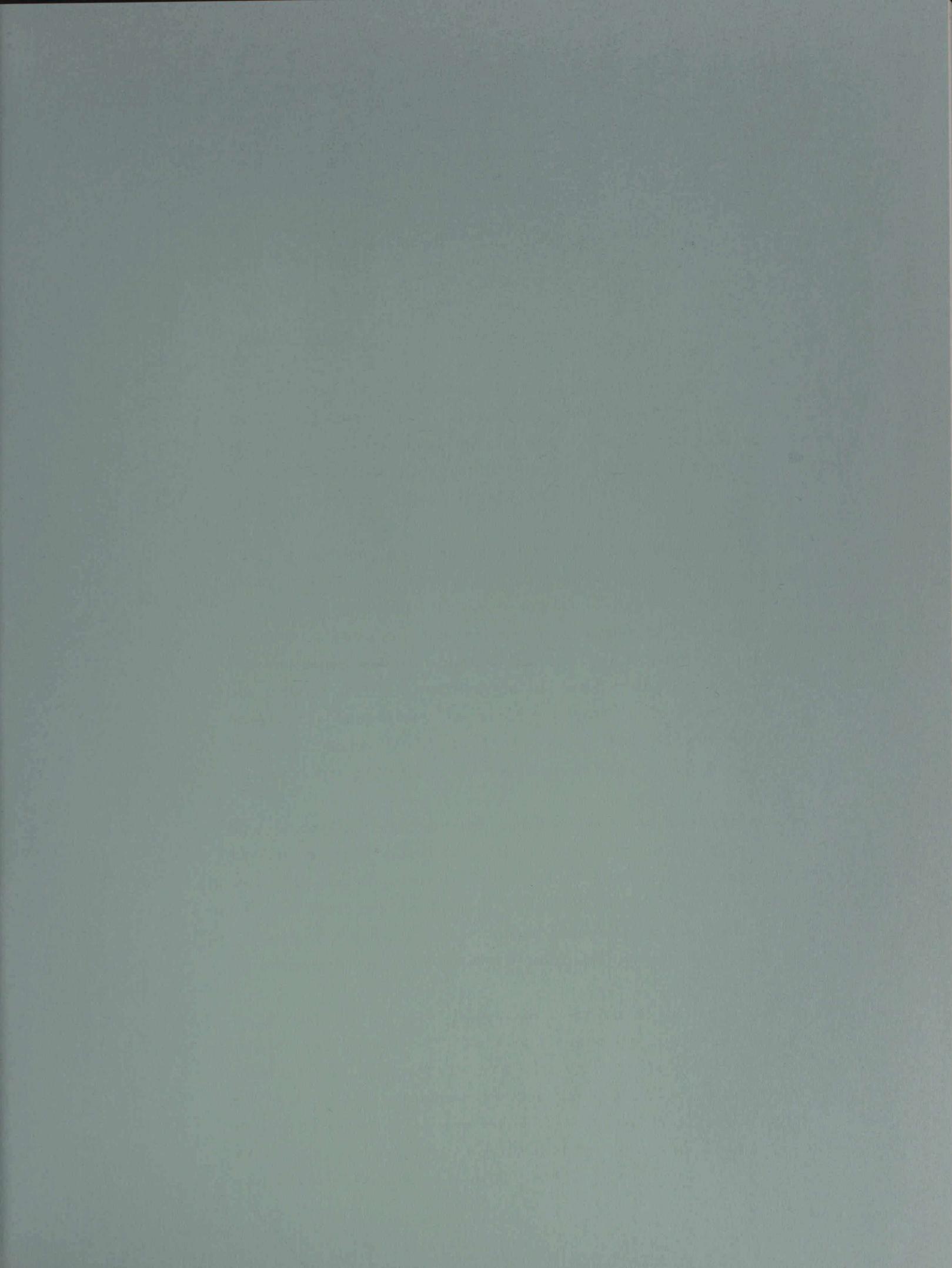
It is the policy of the United States to support the Conference on Disarmament and to encourage all nations to participate in its work. The United States is committed to the goal of achieving a world free of nuclear weapons and to the goal of achieving a world free of all weapons of mass destruction.

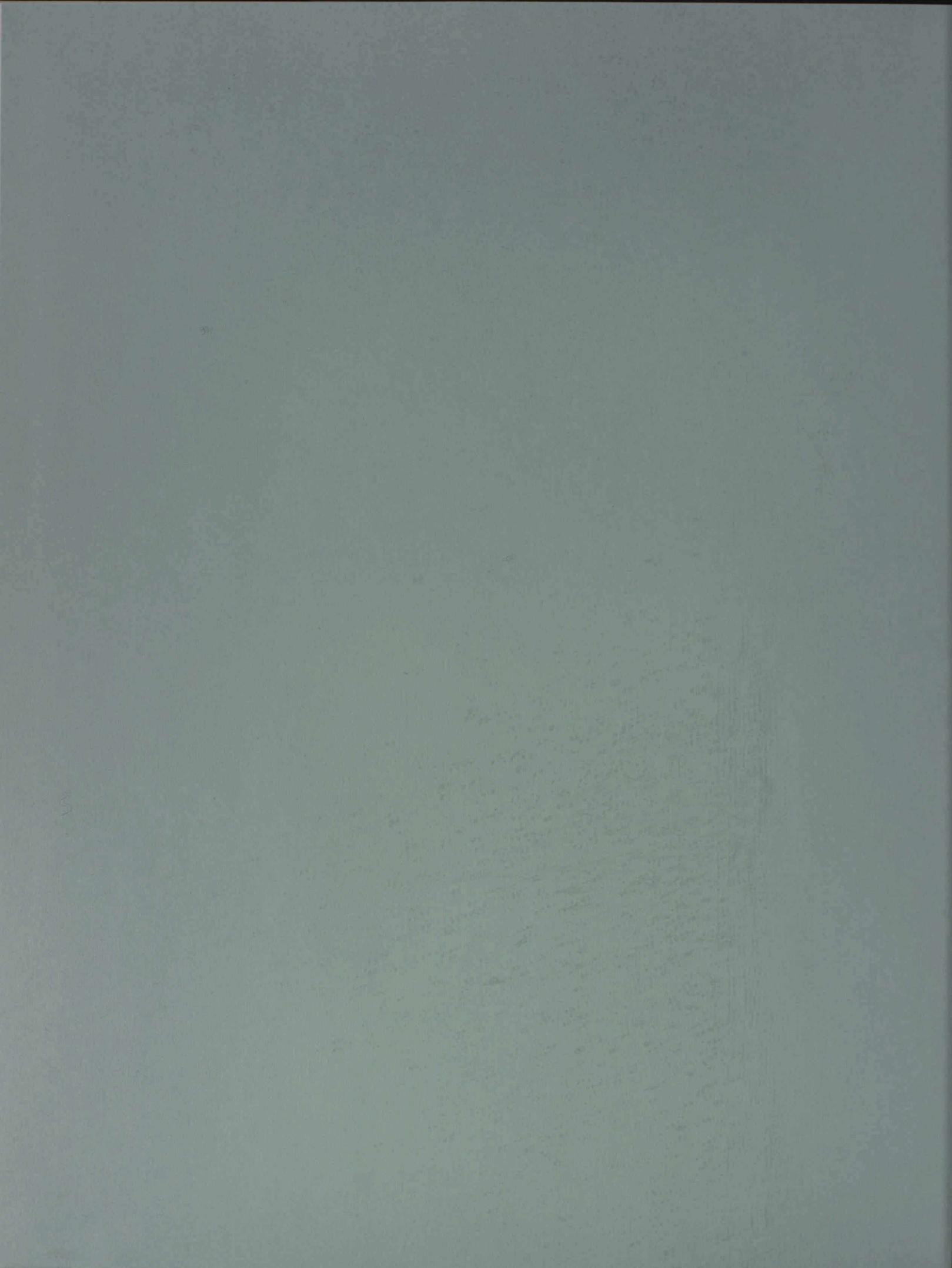
Yours sincerely,

James Earl Ray
Special Representative
to the Conference on Disarmament

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CONFIDENTIAL - DISARMAMENT





7 April 1989

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FEDERAL REPUBLIC OF GERMANY

Report on a National Trial InspectionI General remarks

1. On the basis of the working paper on trial inspections (CD/CW/WP.213 of 19 September 1988), a national trial inspection (CW non-production inspection) was carried out in the Federal Republic of Germany on 9 February 1989 in a multi-purpose facility producing a substance listed in schedule [2] of Article VI.
2. This inspection was in keeping with the objective of the working paper, namely to examine the concept and the individual provisions of the rolling text (in its version of 12 September 1988, CD/874) by means of a national trial inspection in order to find out if they provide the envisaged International Inspectorate with appropriate and practicable criteria for the verification of non-production and if such criteria enable the inspectors to establish with sufficient certainty whether civilian chemical facilities in any State Party are in fact only used for purposes not prohibited by the Convention.

The inspection was carried out to clarify to what extent an effective control of the quantity and use of certain substances for civilian purposes and an on-site inspection of the facilities which produce and process them are compatible with a feasible control system which takes account of the legitimate economic interests of the industry with regard to the protection of confidential information and data.

3. In preparation of the inspection a group of governmental experts set up for the purpose of the trial inspection and acting as a fictitious international control authority, transmitted to the industrial facility to be inspected a catalogue of questions on the basis of the annex to article VI [2] and of the model for an agreement relating to facilities producing, processing, or consuming chemicals listed in schedule 2 contained in Appendix II of CD/874.

4. The inspection was carried out in a multi-purpose facility which produces, among other things, a simple organic intermediate product listed in schedule 2.

The facility to be inspected and thus the physical scope of the inspection were defined as follows: "a specific operating process unit (battery limits) and associated feed, product handling, waste treatment and storage tanks".

5. This facility produces, among other chemical substances, the simple organic intermediate product listed in schedule 2, whose production and use for civilian purposes is to be subject to international monitoring, including on-site inspections at regular intervals; after the entry into force of a convention.

The inspection was limited to the verification of the declaration and other information provided by the firm on the production of this substance as well as the non-production of substances listed in schedule 1.

6. It should be noted that the trial inspection posed a particular challenge for the inspectors for the following reasons:

First, the production facility is located within a large integrated plant of the chemical industry.

Secondly, the inspected product is a common commercial intermediate product which cannot be distinguished from other products manufactured in the facility by identifiable technical characteristics. This product, which is subject to international competition, is produced, depending on market demands, in short and separate production series by a plant which produces approx. 30 other products. For such cases, useful experiences were gained as to specific verification problems and ways to solve them.

II Information on the facility as well as on the use and production of the substance, provided by the enterprise in response to the "inspectorate's" questionnaire and as a declaration on the production of schedule 2 substances on the basis of CD/874, appendix 1, page 79 et seq.

1. The inspected facility is part of a typical intermediate product plant, where many substances are produced by varying methods and in multi-purpose facilities which usually consist of the reactor for a chemical transformation and the facility for reprocessing. It is in this facility that the schedule 2 intermediate product in question is produced. The inspectorate was provided with a basic set of rules from the specialized literature (Ullman's Encyclopedia of Industrial Chemistry).
2. The substance in question is exclusively employed for civilian purposes and can be used as follows:
 - It is a precursor for many pharmaceutical products and serves, among other things, as peptization agent for medical products, as solubility agent and as isolation and cleansing material for a number of antibiotics.
 - It serves as intermediate product in the chemical industry, for instance for the production of corrosion inhibitors, ion exchangers, pigments and photochemicals.
 - It is used as a catalyst in the production of phenolic resins, polyurethanes and epoxy resins and as the basic component of synthetic resins.
3. The production of the substance in batches is effected by allowing two liquid components to react in a reaction vessel with little specialized equipment.

One feedstock is supplied by the plant via a pipeline. The second feedstock is supplied by another manufacturer in tank wagons and pumped into the reaction vessel from storage tanks.

After synthesis has been completed, the substance is stored as a crude product and purified by multi-stage rectification at reduced pressure. Several discontinuous distilling columns and one continuous column are available for this process. The choice of the column depends on the requirements of the facility in every case.

The distillation product consists of various fractions. The first runnings and the residue of the distillation process are burned in the plant's combustion facility.

The intermediate runnings and the last runnings are again filled into the distilling column; only the major runnings meet the purity requirements for the substance. The fractions are transferred from the distilling columns to special receptacles. The major runnings, i.e. the refined product, are now filled into barrels. These are passed on to the storage and packing section of the factory, which organizes the shipping of the product.

The exhaust air from gaseous by-products is cleaned. This waste water as well as the water used to rinse the tanks is purified in the factory's own sewage treatment plant.

The facility for synthesizing and processing the substance is operated manually. There are no specialized measuring and steering instruments to direct this process.

Safety regulations must be complied with when handling feedstocks.

No specific technical safety arrangements are required for the synthesis apart from the general safety regulations applicable to the handling of chemical substances.

Owing to the danger of injuries through acids, face masks and rubber gloves must be worn while taking samples.

The personnel producing the substance are not subject to a medical examination related to their work.

4. The quantity of the substance produced per calendar year is relatively small in comparison with the size of the facility; it amounts to approx. 100 metric tons. Consequently, the facility produces the substance only during a few weeks per year, distributed over a number of short production intervals; for the remainder of the year, it produces various other products.

Theoretically, the capacity of the facility for the production of the substance is 10 times that of the capacity needed for the quantity actually produced.

The substance is not processed in the factory, but rather sold on domestic or foreign markets.

Production planning depends on the demand for the substance on the market. As a rule, production planning begins two months in advance. If necessary, however, the facility can be converted to the production of another product within just a week.

III Implementation of the trial inspection

1. Initial visit

On 24 January 1989, the inspectors paid an initial visit to the firm as envisaged by CD/874 in preparation for the first on-site inspection. The inspectors were familiar with the declaration submitted by the firm in accordance with CD/874 (Appendix I, p. 79 et seq.). It contained only vague information concerning the quantity of the substance produced in the calendar year of 1988.

- 1.1 The inspectors noted the answers given by the management on the produced substance and the facility on the basis of the "inspectorate's" questionnaire.

There was agreement to the effect that information provided by the management in conformity with item 2 of the model for an agreement relating to facilities producing, processing, or

consuming chemicals listed in schedule 2 (CD/874, appendix II, p. 125) should partly remain with the inspectorate. Another part (Information in accordance with p. 125, item 2 d, f, g, h) was to be kept under lock and key by the inspectorate on the premises of the firm.

1.2 Although the inspectors had been provided with declarations containing information and data both on the substance and the facility, many issues needed to be clarified between them and the management, for instance technical and organizational details with regard to the scope and implementation of the trial inspection. The agreements subsequently reached are important in this connection.

- The tour of the production and storage facilities to be inspected as well as their limits should be based on the definition delimiting the facility (cf. I 4).

In a further step, the scope of the future trial inspection of the facility was laid down; the facility was toured during the initial visit.

- As far as the inclusion of confidential data in the trial inspection is concerned, a two-tiered approach was agreed.

It was specified

1. that one category of confidential data was to be taken under lock and key on the premises of the firm (cf. CD/874, p. 126, item 2.1) and must not appear in the inspectors' report and
2. that another category of data was to be considered strictly confidential even for the purposes of the inspectorate because they do not contribute to verification within the meaning of the convention (cf. CD/874, article VI, item 9 (c), p. 29). These data

encompass details about the specific conditions of reaction underlying the production of the substance (temperature, pressure, additives, duration of the reaction etc.) which determine the quantity of substance distilled. The trial inspection should be implemented without looking into those parts of the facility diary containing such particularly sensitive data.

- In order to verify the declarations concerning the substance produced, the trial inspection should, moreover, examine the whereabouts of the feedstock which is bought, not produced, by the enterprise.

All documents and data concerning the quantity should be treated as confidential information and be kept under lock and key on the premises of the firm.

- During the tour of the production and storage facilities, all possibilities of sampling and quantitative verification for the trial inspection were discussed.

It was agreed to define the sampling points to be used and the objects of quantitative verification.

The time-related and methodical possibilities for sample analysis were discussed; apart from the laboratory in the plant, other analytical laboratories of the firm should be included.

It was agreed that sample analysis during the trial inspection should serve a double purpose:

- The sample should be checked for the presence of the substance (positive/negative test) and the feedstock (positive/negative test) and

a mixed sample consisting of the above-mentioned separate samples should be checked for substances listed in schedule 1 by analytical measuring of its qualitative content of phosphorus, arsenic, sulphur, chlorine and aromatic substances. This procedure was possible because none of these elements was contained in the individual samples, according to the management. Moreover, a reaction of the individual samples among themselves was ruled out.

The number and storage of reserve samples was discussed and agreed upon.

- 1.3 A facility attachment was compiled for the trial inspection on the basis of the rolling text in CD/874, p. 125-128, Appendix 2.

The content of the facility attachments was elaborated on a "need-to-know" basis (CD/874, Article VI (9) (c), p. 29) and in accordance with the agreed definition given of the facility (cf. 1.4).

Those parts entrusted to the inspectorate contain primarily the information on the substance and the facility for its production provided under 1 of this report. Some of this information is unclassified, the rest is subject to the confidentiality regime under which the inspectorate operates. Those parts kept under lock and key list more detailed information about the localities for the production and storage of the substance (plans, sketches, diagrams).

- 1.4 The trial inspection was to be carried out in one day. Given the shortness of time, careful preparations were necessary. Thus, the following plan of operation was developed.

- familiarization with in-plant safety arrangements and agreement on the handling of confidential information,

- information on the operational status of the facility on the day of the inspection, given by the management,
- determination of the areas of the inspection of the facility to be inspected on the basis of the facility attachment,
- determination of the number of samples and of the sampling points,
- implementation of the inspection of the facility according to plan, including sample-taking and quantity measurement in order to determine the actual amount produced,
- implementation of the sample analysis in the envisaged laboratories under the surveillance of an inspector,
- reception of the declarations concerning production, use and storage of the substance during the previous and the current calendar year up to the day of the inspection,
- evaluation of the production and inventory records relating to declarations concerning the quantity of the substance and the feedstocks submitted by the management,
- examination as to the correspondence of the verified quantities with the declared quantities within the technical margin of error,
- information on the number and type of documents which were inspected and then kept under lock and key in the plant by the inspectorate,
- assessment of the results of the analyses as to whether they correspond with the information provided by the management and with a view to the presence of substances listed in schedule 1,

- registration of the inspection results in a short report form developed for the trial inspection, and final discussion.

2. Trial inspection

2.1 Implementation

2.1.1 The trial inspection was carried out on 9 February 1989 in accordance with the agreed plan of operations.

Five inspectors were needed who, apart from their other control duties, monitored the envisaged analyses in three laboratories.

2.1.2 The management informed the inspectors about the following conditions prevailing on the day of the inspection:

- the operational status of the facility for the production and cleaning of the substance,
- the storage of the feedstock,
- the storage of the crude substance and
- the storage of the pure substance.

2.1.3 The inspectors determined the number of samples and the sampling points by taking random samples (negative/positive samples) and chose one of the storage tanks for quantity verification. An equivalent mixed sample was created on the basis of all individual samples and checked for substances listed in schedule 1. Sample-taking and quantity verification took place during the inspection tour of the facility.

In the laboratories, the samples were analyzed for the presence of schedule 2 substances by gas chromatography and, where necessary, in mass spectrometers under the constant surveillance of the inspectors.

The mixed sample was checked for schedule 1 substances as follows:

- for phosphorus by atomic emission spectrometry including plasma excitation,
- for arsenic by flameless atomic absorption spectrometry,
- for chlorine and sulphur on the basis of elementary and trace analysis, using a Wickbold oxyhydrogen combustion apparatus and
- for aromatic substances by nuclear magnetic resonance spectroscopy.

All results were jointly taken under lock and key in the facility.

2.1.4 The success of an on-site inspection depends largely on exact and complete documentation of the quantities of the substance listed in the declarations. The management considers such data to be confidential information which is disclosed to the inspectors during the inspection with the provision that they maintain this confidentiality. The trial inspection, too, respected this principle.

The declarations contained the quantities of the substance produced and the feedstock for the previous and the current calendar year up to the day of the inspection.

The declared quantities were verified on the basis of numerous business papers and documents which the inspectors were allowed to read. Among them were:

- computer print-outs and receipts relating to the origin and use of the purchased feedstock (name of supplier covered),
- computer lists of the sold quantities of the substance and the receiving countries (names of customers covered),
- storage papers,
- weight cards and
- quantity figures contained in the facility diary (parameters of the procedure covered).

Verification also extended to the quantity and yield of the individual batches.

The declared stockpile of pure substance was verified by on-site inspection.

All documents and receipts concerning quantities were taken under lock and key in the facility; they are available to the "inspectorate".

2.2 Results

2.2.1 The results of the trial inspection were recorded in the agreed short report form.

2.2.2 The management's statements during sample-taking concerning the presence or absence of the substance at the various places of production and storage were confirmed by the results of the analyses.

The analysis of the mixed sample consisting of the individual samples showed no trace of schedule 1 substances.

2.2.3 The inspection confirmed the declared quantities of the substance and the feedstock for the previous and the current calendar year up to the day of the inspection within the technical margin of error.

To the inspectors, the quantity documentation seemed plausible at all times and for the entire production process.

2.2.4 The inspectors noticed no safety arrangements from which the potential production of supertoxic substances could be inferred.

IV Assessment and conclusions in connection with individual questions

1. The national trial inspection was designed to test the feasibility of the criteria for the verification of non-production laid down in the rolling text; furthermore, it served to gain experience and insights which can be applied to the work on the rolling text and to making the verification provisions as realistic and effective as possible.
2. In terms of its course and results, the trial inspection, carried out on the basis of these criteria, was successful.

The experience gained from this inspection shows that, as a rule, routine inspections, are a suitable method to find out whether production in a chemical facility (cf. 1. 4) is for purposes not prohibited by the Convention.

It has been shown that the comprehensive and careful preparatory work done during the initial visit contributed considerably towards the success of the inspection.

This preparatory work later enabled the inspectors to carry out their task within the narrow time limit of one day and to perform all the necessary elements of the inspection.

The accelerated yet intrusive implementation of the inspection is attributable not least to the presence of a relatively large number of inspectors (five persons), who surveyed the envisaged analyses in the laboratories in addition to performing their other control functions.

Moreover, it became clear that the success of an on-site inspection will largely depend on exact and complete documentation concerning the declared quantities of the substance. Attention must be paid to the protection of legitimate business interests of the enterprise (confidentiality of commercial know-how).

It has been shown that a mass balance accompanied by original documents of the enterprise and based on the major feedstock as well as conversion factors supported by scientific literature is sufficient for plausible verification because any significant manipulation of the data can be virtually ruled out in the present case, given the manifold interdependence of documentation in any major business of the chemical industry. However, this insight cannot be applied to smaller firms and isolated production units.

3. The trial inspection gave rise to various questions:
 - 1) The problems connected with the inspection of a multi-purpose facility;
 - 2) the verification interest of the International Inspectorate versus the commercial interests of the firm concerned ("confidentiality");

3) the personnel requirements for an efficient inspection.

3.1 The inspection of a multi-purpose facility poses certain problems because the section to be inspected must be singled out in a convincing manner.

The inspectors need to know which parts of the facility are actually involved in the production of the substances in question. This means that, to a certain extent, those parts of the plant connected with the above mentioned section will have to be included, such as pipes to and from the facility's tanks and supply pipes up to the relevant bifurcations. In large enterprises consisting of several multi-purpose facilities, however, inspection activities must be limited for practical reasons. The inspected part of the facility in question represents in most cases only a relatively small section of the entire production.

The manifold possibilities for technical variation inherent in a multi-purpose facility are another factor of uncertainty. Such a facility may well have a considerable degree of technical flexibility, e.g. it can shift production to a variety of other storage tanks and pipelines. It is therefore difficult to follow the product's path through the facility.

An additional verification problem lies in the fact that in large firms consisting of several multi-purpose facilities (with the firm in turn being part of an even bigger complex), substances subject to the convention can also be produced in other facilities which form part of the overall complex.

In such a case, comprehensive quantity control extending beyond the controlled production unit can provide better evidence than a mere technical inspection of the facility.

3.2. A key problem in formulating the convention text lies in the requirement of reconciling the interest of the International Inspectorate in effective control of the quantity and use of certain substances for civilian purposes as well as in on-site inspection of the facility in

question with the legally protected sphere of the firm (problem of "confidentiality").

The inspected firm's interest in confidentiality extends both to the physical and the factual scope of the verification measures.

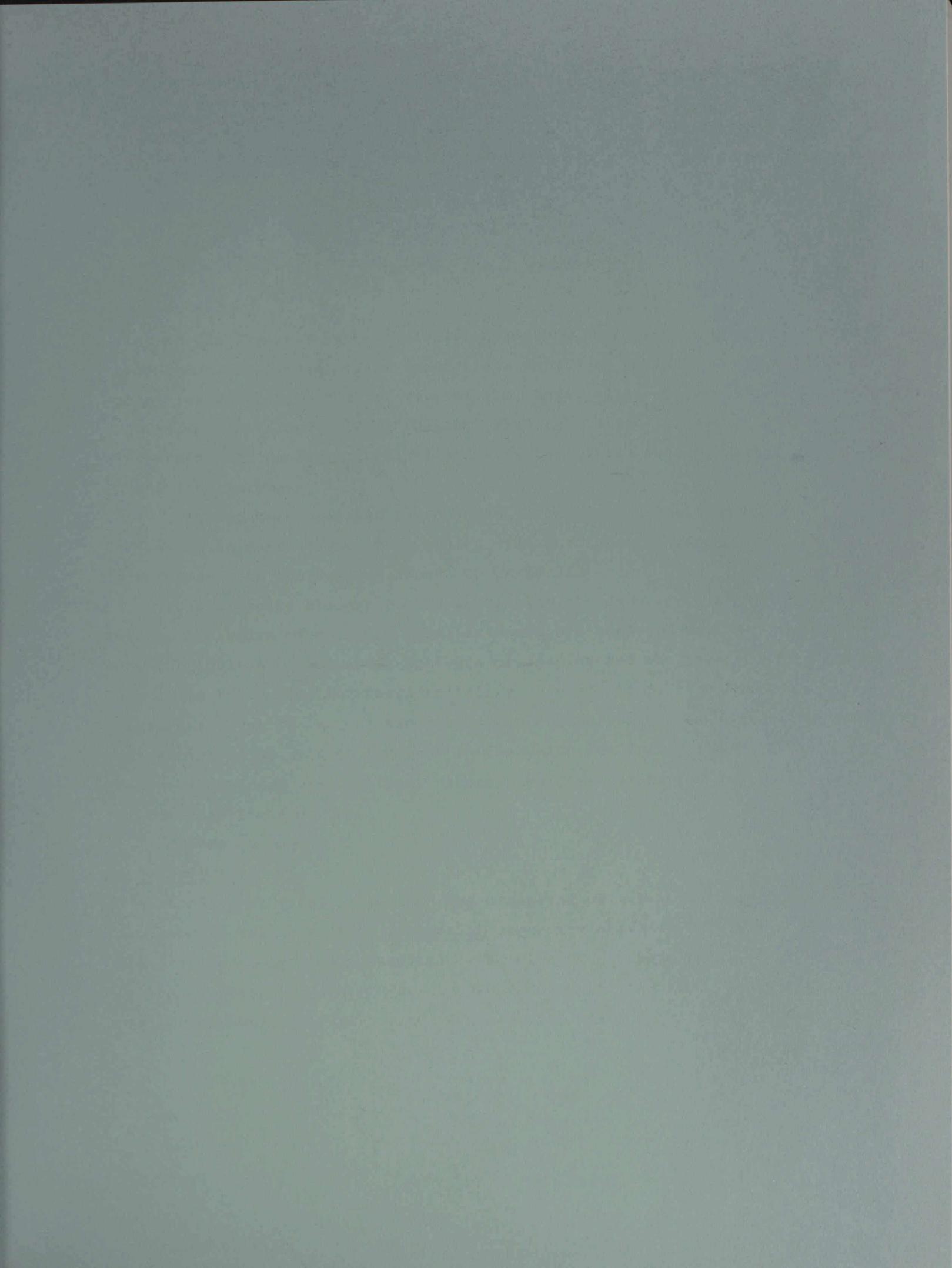
For understandable reasons, private companies hesitate to provide information about their customers, although this could well facilitate quantity control; the identity of the customers is thus considered to be a business secret.

Together with technological know-how, confidentiality in connection with these data is a highly sensitive issue for business firms and deserves protection.

One conceivable alternative is the disclosure of shipment data broken down by countries of destination; this was done during the trial inspection.

3.3. Five inspectors were necessary for the careful, rapid and proper implementation of the inspection. It proved to be useful that the inspection took place shortly after the initial visit. Under these circumstances, it was possible to complete the inspection within a single day.

Should such a rapid succession of initial visit and inspection prove impossible, an international team of inspectors arriving at short notice and without prior knowledge of the facility would require more time for an inspection. Furthermore, this could have consequences for the staffing of the Technical Secretariat.



FRANCE

NATIONAL TRIAL INSPECTION

INTRODUCTION

At the summer session in 1988, the Ad hoc Committee on Chemical Weapons proposed that national trial inspections should be carried out by interested countries for the purpose of determining, inter alia, whether the verification provisions contained in the "rolling text" realistically made it possible to ascertain that declared chemical industry facilities were not being used for prohibited purposes.

This document contains a report on the national trial inspection organized in March 1989. The results will for the most part be set out in accordance with the Swedish paper (CD/CW/WP.213).

This exercise brought out in particular the importance of the initial visit, the value of checking facility documents prepared over a long period, the difficulties involved in analysis of samples and the need to pay constant attention to respect for confidentiality. In addition, it enabled representatives of various ministries and public bodies, as well as chemical manufacturers as grouped together in the Union des Industries Chimiques, to become acquainted with the real nature, the constraints and the implications of the future convention.

I. GENERAL APPROACH

1. Objective

A national trial inspection was organized at a multi-purpose chemical facility to test a routine inspection procedure designed to check that a prior declaration concerning a chemical to be placed in schedule [2] was borne out by the existence of a shop for the manufacture of the product, and that there was consequently no possibility of the output being diverted.

Two technical matters were given special attention: checking of the materials balance on the basis of information supplied by the company, and the value of taking samples both of products and of effluents so as to confirm that the production process is in keeping with the descriptions supplied and that there are no unauthorized products.

Given the importance France attaches to respect for confidentiality under the various verification régimes, it was also necessary to determine the maximum level of information to be furnished by the manufacturer to ensure an effective inspection: the "need to know" emerges as the essential element of respect for confidentiality when information is made available, as well as the skill and dependability of the inspectors (see document CD/901).

2. Framework of the inspection

The inspection took place in a specific unit of a multi-purpose shop at a time when production was under way. Although this facility does not produce any of the chemicals covered by annex VI [2], it was considered to offer sufficient similarities for simulation of the conditions required for the planned inspection.

The multi-purpose shop itself forms part of an industrial complex manufacturing a large number of products by continuous or batch methods, some of them chemically very similar to the product in question.

3. Type of on-site inspection

In accordance with the provisions mentioned in annex [2] to article VI, the routine inspection was preceded by an initial visit (in fact consisting of a visit lasting several days, with an intermediate evaluation) and several preparatory meetings, in particular to draw up an inspection scenario and later a specific agreement for the facility.

4. Advance information

4. (a) - Declarations: the initial declaration indicated:

- The production capacity for the product in question, specifying actual production in 1988 and planned production for 1989;
- Maximum and mean storage capacity for 1988;
- The fact that it was impossible to produce schedule [1] products.

4. (b) - Inspection procedure:

The specific agreement for the facility, which was derived from the "model for an agreement" negotiated with the industrial company, and regarded as a contractual document binding on all the parties (Technical Secretariat,

national authority and plant management) provided that the following documents, which were considered to be confidential, were to be made available at the time of the inspection:

- A site plan specifying only those places to which the inspectors would have access, namely: the building in which the product in question is produced, the storage areas for the product and for intermediates for its synthesis and their raw materials, the plant's sales and accounting departments in case documents have to be consulted, and the relevant laboratories where certain analytical operations could if necessary be monitored;
- An indication of equipment used in the facility, with the schematic plan showing possible sampling points, and daily storage sites close to the facility;
- Details concerning treatment of effluents and analytical methods available at the plant relating to the purity of finished or intermediate products;
- Details of safety arrangements for the site and the facility, to enable the inspectors to comply with general safety measures applicable to all visitors.

The specific agreement for the facility stipulated that none of these documents should leave the facility and that at the end of the inspection they should be placed in a special box in a room made available to the inspectors, for use, if need be, in a subsequent inspection.

5. Type of facility to be inspected

(cf. 2.)

6. Type of declared activity at the facility

Manufacture, during the year 1988 (and the beginning of 1989), of a product listed in schedule [2] (solely for the purposes of a trial inspection).

7. Actual activity at the facility

Activity in conformity with the declaration in qualitative terms, but in quantitative terms at a higher level for an intermediate used in the synthesis of the product in question.

II. DETAILED DESCRIPTION

1. Inspection mandate

The specific agreement mentioned above served as the inspection mandate.

2. Composition of the inspection team

The inspection team was composed of three chemistry specialists:

- An inspector of facilities classified for environmental protection purposes, and university professor;
- A doctor of chemistry and specialist in synthesis of chemicals of the same type as the product in question, belonging to a research centre;
- An engineer from the chemical industry with experience in research and development and production, and specialist in effluent treatment.

This team participated in the initial visit and in some of the preparatory meetings.

3. Inspection equipment

The team of inspectors brought with them an air sampling system with absorbent resin tubes. A portable, self-contained apparatus for pollution monitoring which detected organophosphorus and sulphur compounds (APCC/M2), recently developed by the technical department of the Ministry of Defence, was also available. The rest of the equipment was provided by the plant.

4. Activities prior to the inspection

The dates of the initial visit, the preparatory meetings and the inspection had been agreed in advance with the company, enabling it to prepare in good time the documents which were handed personally to the inspectors.

5. Advance preparations on-site

An office was made available to the inspection team, which found in it all the confidential documentation required for the inspection. The same room was used for the preparatory meetings and for the evaluation of the inspection. No accompanying personnel were admitted.

6. Escort and points of contact arrangements

Throughout the inspection, as for the initial visit, the inspectors had a single contact in the facility who served as an intermediary for conversations with the staff.

Three representatives of the management played the role of the national authority, under the guidance of a co-ordinator, in order to eliminate any difficulties encountered during the initial visit and the inspection.

Arrangements concerning transport and points of contact were not covered.

7. Other participants

A team of four monitors was set up to prepare the inspection scenario, and then assist the inspectors in requesting information and in processing the

results of the inspection. This team also had the task of looking out for any interference by the inspectors, so as to ensure respect for confidentiality.

This team was made up as follows:

- A consulting engineer from the Union des Industries Chimiques (doctor of chemistry);
- Two representatives of the Ministry of Defence;
- One representative of the Ministry of the Environment.

The company owning the plant was represented by an official from its head office throughout the trial inspection.

8. Duration of inspection and initial visit

The initial declaration was drawn up in advance by a representative of the manufacturer and a representative of the national authority (one half-day).

The initial visit was composed of a one-day visit to the site for all the participants, followed by:

- One day for the inspectors and the plant representatives to familiarize themselves further with the site and the facility;
- One half-day for finalization of the specific agreement between the monitors, the national authority and a representative of the plant.

The monitors and plant representatives devoted a further day to negotiating the terms of the inspection scenario, in the presence of the national authority.

The routine inspection that followed lasted two days, including the opening conference, the inspectors' work and discussion of the inspectors' report.

The exercise was rounded off by a day devoted to overall evaluation of the inspection by all the participants, bringing the total length to seven days.

9. Measures to protect confidential information

All the information provided to each inspector was assembled in an individual and personally addressed confidential dossier which was left at the facility at the end of the inspection.

The members of the inspection and monitoring teams were public servants and bound by an oath of secrecy, with the exception of a consulting engineer from the chemical industry, who was on oath as a legal expert, and an engineer from the company which owned the inspected plant. All of them signed on arrival a personal promise of secrecy regarding the plant visited.

During the inspection, no communication with the outside world was possible without prior checking by a representative of the plant. Moreover, for note-taking purposes the inspectors had only notebooks with numbered pages, which were supplied by the facility and recovered at the end of each day.

It should also be emphasized that the inspection team had access to only a limited number of areas in the plant.

10. Opening conference

At the opening conference:

- The national authority recapitulated the terms of the initial declaration, a number of provisions of the specific agreement for the facility and the confidentiality rules to be observed;
- The plant representative introduced the items in the dossier handed to the inspectors, together with the various documents provided for in the specific agreement, and reminded them of the safety regulations;
- The inspectors outlined their inspection programme, together with their sampling and analytical equipment.

The conference lasted about an hour.

11. Types of records audited

The inspectors studied quantitative statements of movements and stocks of raw materials and finished products (the accounting documents of the plant, which had been authorized by the national authority to conceal the prices and the names of suppliers or recipients), covering the whole of 1988 and the first two months of 1989. The inspectors were also in possession of standard consumption figures corresponding to each stage in the process.

Provision of the plant's monthly returns, over a period of several years, proved necessary to check averages and possible discrepancies in output. At their request, the inspectors were also able to consult:

- Certain monthly returns, in order to check such output;
- Dispatch notes for finished products, in order to verify quantities actually sold, but with only the country of destination indicated.

12. Plant orientation tour

The initial visit provided the inspectors with a general view of the plant as a whole and enabled them to visit the building used for production, the storage areas for the raw materials and final products relevant to the inspection, and the analytical laboratories. A detailed plan of the facility was provided in the inspectors' dossier.

13. Inspection of areas and facility equipment

The following were inspected as part of the exercise:

- The entire production unit, including daily storage areas nearby;
- Certain air outlets and effluent pipes;
- The relevant warehouses.

A few members of the staff were questioned.

14. Inspection of operation procedures

The inspectors verified that the capacity of the equipment was appropriate for the various stages of production. They confirmed the absence of special safety measures or arrangements other than those necessary for the protection of the staff in respect of a toxic raw material.

15. Sampling and sample-taking procedures

It had been planned that the plant personnel would stand ready to take the samples requested by the inspectors at certain points in the facility agreed upon at the opening conference, but in the event the period of time required for the necessary analyses to be carried out by a laboratory whose work schedule did not allow for them was too long to enable the inspection team to receive the results in good time. Accordingly, the inspectors contented themselves with air sampling using absorbent resin (Tenax GC)

16. and 17. Handling of samples and analysis

One of the inspectors had these samples analysed in a laboratory outside the plant. The results of the analysis became known only after the inspection, and confirmed the initial conclusions drawn.

18. Types of analyses

Analysis of these samples was carried out by means of gas chromatography together with mass spectrometry.

Analytical facilities which would make it possible to conduct identification tests within the monitoring process were available in the plant's laboratory, but could not be used for the reason already indicated (§ II.15).

19. Documentation

No documentation was removed from the plant. The inspectors had an opportunity beforehand to document scientifically the possible chemical reactions in the area covered by the inspection. All the documents supplied, used or drawn up during the initial visit and the inspection were treated as confidential.

20. Evaluation by inspectors

The evaluation of the inspection activities and of the information collected during the inspection covered such subjects as:

- The possibility of undeclared production between inspections;
- The range and accuracy of the data supplied by the plants;
- Co-operation on the part of the plant representatives;
- Various difficulties encountered during the initial visit and the inspection.

21. Closing conference

Consisted of the presentation of the inspectors' report and a discussion of anomalies (see § 22 and 23 below).

The conference also decided whether the various documents should be destroyed, placed in the box in the plant or sent to the Technical Secretariat.

22. Anomalies, disputes and complications

An anomaly deliberately introduced by the plant, in the form of a small diversion of an intermediate, was detected by the inspectors.

The plant representative explained that what was involved was an undeclared parallel sale for market requirements.

23. Report of the inspection team

As a result of time constraints, only an oral report was presented at the closing meeting by the inspectors, who also replied to questions from the monitors.

A written report would have mentioned the anomaly which was detected, in accordance with the provisions of document CD/901.

24. Impact of the inspection on the facility

Because of the small number of inspectors, it was possible to avoid disrupting facility operations. No production losses were recorded. On the other hand, the supervisory personnel in the workshop are estimated to have spent time equivalent to three months' work by a plant manager on the preparations for and conduct of the inspection.

* * *

III. SPECIFIC ELEMENTS TO BE TAKEN INTO CONSIDERATION

0. Initial visit

The initial visit constitutes the first contact between the industrial plant and the representatives of the Technical Secretariat, and is thus a means of establishing relations of trust, or at the very least relations which are non-antagonistic.

It is desirable that, on the basis of a more detailed initial declaration, prepared jointly, if appropriate, by the industrial plant and the national authority, the Technical Secretariat should be able to draw up a "recommendation specific to the facility" to serve as a framework for the initial visit, which is vital in order to protect confidential information.

In addition, a special section in the general guidelines for inspectors should be devoted to the initial visit.

A thorough initial visit should enable the inspectors to become well acquainted with the production facility for the purpose of drawing up the specific agreement for the facility and making subsequent checks easier.

At the time of the initial visit, the representative of the plant should take photographs of the areas and equipment relevant to the inspection, under the supervision of the inspectors; these photographs would be kept in the sealed container in the plant.

1. Inspection mandate

For each inspection the mandate should constitute the basic reference for the Technical Secretariat, the inspectors, the national authority and the plant to be inspected.

It should contain a section on general guidelines and a specific section, drawing on the specific agreement for the facility (which would be negotiated at the outset and part of which would be available to the Technical Secretariat) and affording the inspectors a means of avoiding any conflict with those with whom they have to deal, in particular a manufacturer concerned at the risk of leaks of confidential information. In fact, the best way to minimize the disruption of production activity is to facilitate the work of the inspectors in this manner.

Nevertheless, the inspectors should retain a degree of flexibility during the inspection (see § III 15 to 18 below: sampling).

Each inspector should also have an individual mandate certifying his identity and function.

2. Composition of the inspection team

The team should be large enough to cope with the various tasks, but small enough not to disrupt production activity, or violate the plant's safety rules and arrangements.

The ideal size seems to be four inspectors, who, in addition to the essential basic training provided for the whole body of inspectors,

particularly concerning the content of the convention, might, from the initial visit onwards, each be specialists in one of the following fields:

- The chemistry of the field in question (preferably a research chemist);
- Industrial processes of the same type (process engineer);
- Analyses in the field in question (preferably a physical chemist);
- Organization and methods, and accounting methods (whether or not computerized).

In particular, the number proposed should allow the inspectors to divide up the various inspection tasks between them, by group. Provision should also be made for a team co-ordinator.

The initial visit should enable the composition of the team of inspectors to be specified in qualitative terms, on the basis of the complexity of the site and the type of facility (automated or non-automated).

3. Inspection equipment

It should be possible for the analyses to be performed with maximum speed, especially for trace detection in the air or in effluents, but also for identification of certain finished products, or in some cases intermediate products.

In addition to a contamination detector, the Technical Secretariat should have mobile laboratories equipped with very sensitive trace determination and rapid identification facilities, with a computerized data bank, which are appropriate for analysis of the products in question.

Any analytical equipment brought from outside must conform to the safety standards in force in the facility.

4. Activities prior to the arrival of the inspection team

Any modification of the infrastructure of the plant and the facility to be inspected that might have an impact on the course of the inspection must be mentioned in the annual declaration and, where appropriate, lead to a change in the drafting of the specific agreement for the facility.

As far as advance notification is concerned, the arrival of the team of inspectors should be notified simultaneously to the national authority and the plant to be inspected 48 hours in advance.

5. Advance preparations on-site

It is recommended that the plant should prepare a dossier which should remain on-site at the end of the inspection (cf. § II 4b and § III 19).

6. Escort and points of contact

One or several sufficiently senior representatives of the company, if possible with knowledge of the measures provided for in the convention for the inspection in question, should accompany the inspectors when moving around inside the facility. They alone will be authorized to reply to the inspectors' questions. Communications between the inspectors and the outside world should be monitored.

7. Other participants

Participation by at least one representative of the national authority is essential to ensure that the inspection runs smoothly and enable any disputes to be settled.

8. Duration of initial visit and inspection

The initial visit is a process of making contact, familiarization and negotiation simultaneously, even if a specific recommendation for the facility and special guidelines for the inspectors already exist (cf. § III.0). The inspectors and company representatives need sufficient time to conclude the specific agreement and prepare a reference dossier to be kept in the sealed container. It would seem that a period of four to five days is the maximum that may be contemplated.

The time required for the inspection will depend on a number of factors, such as the composition and experience of the team of inspectors, the size of the plant, and so on. A duration of two days seems reasonable.

9. Confidentiality of information (cf. CD/901 of 16 March 1989)

Aside from the guarantees which should go hand in hand with the creation of the corps of inspectors, two measures are essential in order to provide the industrial plant with adequate security:

- Retention of the information in the facility;
- Restriction of such information in strict accordance with the "need to know".

10. Opening conference

The opening conference is indispensable to review the inspection mandate, recapitulate the objectives and details of the inspection, and take cognizance of the documents kept in the sealed container, which constitute the "memory" of the two parties.

11. Types of records needed and/or checked

The checks must be based on quantitative statements of movements and stocks of raw materials, intermediate products and finished products, but the plant must be permitted to conceal the prices and the references to suppliers and customers.

However, the inspectors must also be able, as required, to consult certain monthly returns over lengthy periods of production in order to confirm the output data provided, as well as dispatch notes for finished or intermediate products. These notes should show only the countries of destination, in order to allow for checking by the national authorities concerned where appropriate.

There is a need for more careful consideration of the question of information relating to the average duration of a change of production run, the average duration of equipment cleaning and the annual average rate of equipment utilization.

12. Plant orientation tour

This does not appear necessary for a routine inspection, except in cases where the plant in question has undergone modifications reported in the annual declaration or at the opening conference.

13. Inspection of areas and equipment

It is necessary for the inspectors' attention to be drawn to the production capacities corresponding to each of the stages of manufacture, in order to detect any diversions.

Photographs could also be authorized during inspections in order to confirm any equipment modifications, and could be kept in the sealed container.

14. Inspection of operation procedures

The safety measures adopted are pointers to the manufacture of hazardous products, particularly in the case of ventilation and air filtering and water treatment.

Safety information compiled from national legislation can constitute a source of information for the inspectors. However, as regulations are stricter in certain countries, there is a risk of leaks of confidential information by this means.

15 to 18. Sampling and analysis

At the request and in the presence of the inspectors, samples may be taken by plant personnel, exclusively at points specified in the specific

agreement and/or the inspection mandate, for the identification of products present or for trace detection. The laboratory at the plant should be able to provide the results of the analysis within 24 hours, and consequently it is recommended that the plant's analytical capabilities should be indicated either in the specific agreement or in the annual declaration.

In addition, the inspectors may take air samples (for example using absorbent resin) in order to detect any residues of products manufactured illicitly in the facility.

Similar samples may be taken from the facility effluent and if appropriate from filter elements.

In the case of a multi-purpose plant, the inspectors should also be able to take air and if appropriate effluent samples in the areas surrounding other units and storage areas in the plant, for the purpose of verifying, following analysis on the spot if possible, the absence of substances whose manufacture is either undeclared or prohibited under the convention.

There is also a need for further study of the possibility of taking samples during the initial visit; the results of analysis of such samples, kept in the sealed container, could subsequently serve as reference data (infra-red spectra, for example).

Finally, if, exceptionally, the analyses cannot be conducted in the plant at the time of the inspection, the samples, one duplicate of which will be kept by the facility and another by the national authority, may be sent to a laboratory in the State party receiving the inspection which has been approved by the Technical Secretariat, where the analyses will be conducted, under the supervision of the inspectors, in accordance with an approved methodology (cf. CD/901).

In this laboratory, as in the plant's laboratory, the inspectors should be able to calibrate the analytical apparatus.

19. Documentation

The inspectors' documentation falls into two categories. First of all the inspector should have a handbook specific to each type of inspection or check, to assist him in his investigations (and remind him of his obligations as far as confidentiality is concerned).

He will also have the documentation provided by the plant, which should be considered confidential as a matter of principle, unless the representative

of the plant indicates otherwise. It is suggested that a dual-key sealed container should be installed in which to keep the documentation at the end of the initial visit and after each inspection.

20. Evaluation by inspectors

The handbook mentioned in the preceding paragraph might contain a check-list indicating, inter alia, specific items of equipment.

The complete dossier resulting from the initial visit, and subsequently from each inspection, will serve as a basis for later evaluation by the inspectors of whether the facility complies with the declaration.

21. Closing conference

The holding of a closing conference is recommended in that it allows for an exchange of views between the team of inspectors and the representatives of the plant and the national authority.

Furthermore, the conference provides an opportunity to specify the eventual use of the various pieces of documentation, and particularly the inspection report, depending on its type (cf. § III 23 below).

None of the parties should be authorized to make any statement relating to the inspection before the results have been notified officially by the Technical Secretariat.

22. Anomalies, disputes and complications

It is difficult to draw any conclusions from a single trial inspection, especially as there is no doubt that the atmosphere in which such inspections are carried out by no means corresponds to that of a real inspection.

The anomaly was relatively easy to detect, even though only small quantities were involved. In contrast, it is possible that systematic diversion with parallel accounting could not be detected.

23. Report by the inspectors

For reports concerning compliance with declarations, a standard report, for example with a system of yes/no answers, might be contemplated. In other cases, several options are possible (cf. CD/901, which also deals with matters relating to the confidentiality of reports).

24. Impact of the inspection on the facility

If the number of inspectors is limited, if they are well trained and have an adequate handbook, if they are provided with a sufficiently well-focused dossier, if they restrict their movements within the facility and deal only with the designated officials, this inspection will have only limited impact

on production. On the other hand, the need for the plant to earmark substantial resources in terms of men and equipment for the initial visit and the inspections imposes costs on it which it should not have to bear.

Frequency of inspections was not evaluated, but would naturally have a role to play in the evaluation of impact on the facility.

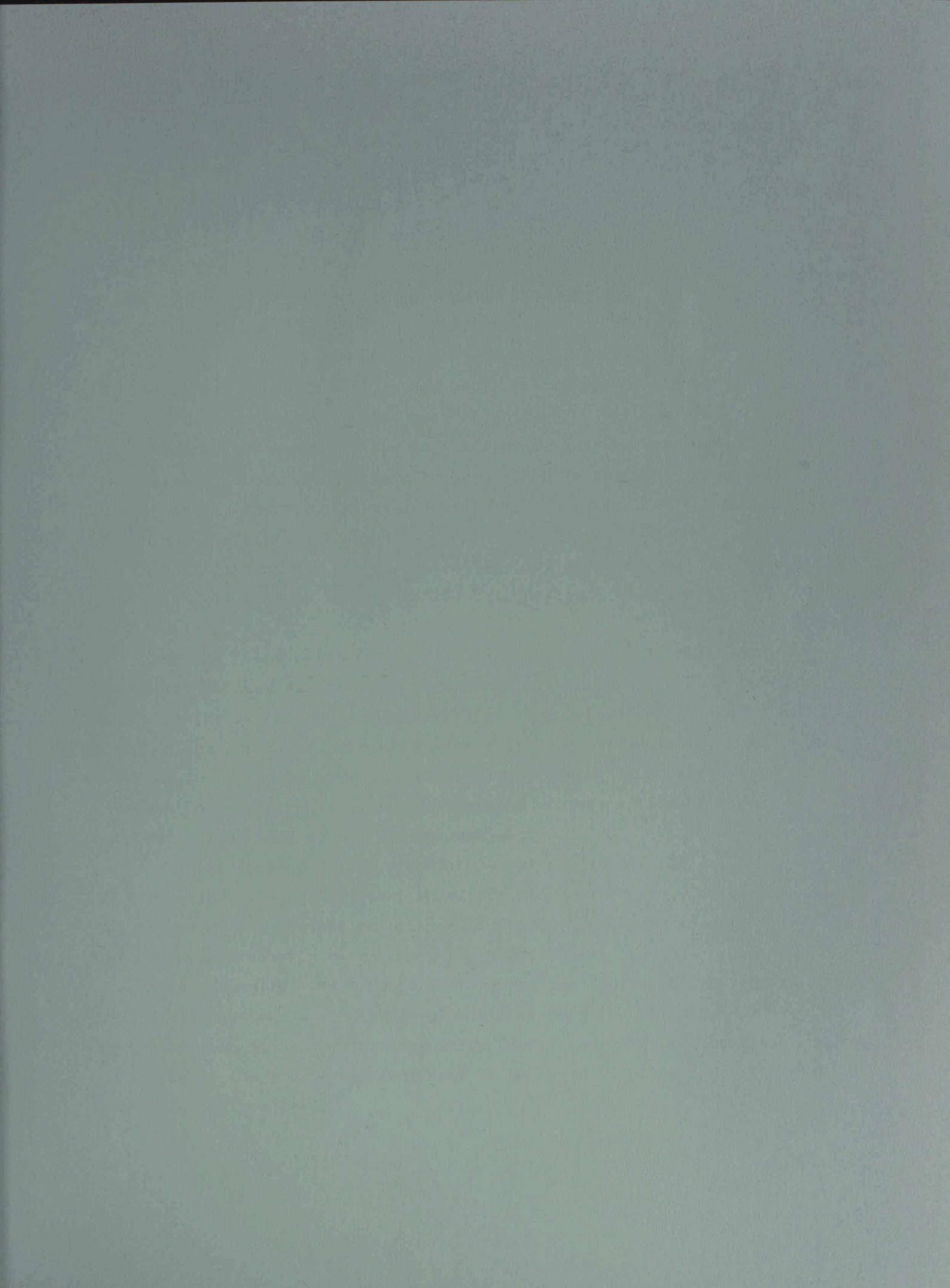
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IV. CONCLUSIONS

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/916

CD/CW/WP.242

17 April 1989

ENGLISH

Original: FRENCH

CHEMICAL WEAPONS CONVENTION

FRANCE

THE SCIENTIFIC ADVISORY COUNCIL

While the aims, principles and basic provisions of the convention on the prohibition of chemical weapons must be sacrosanct, it must be a living, evolutionary institution as far as its application is concerned.

In particular, it will have to be adapted in the light of progress in science and technology that will inevitably occur, in order to minimize and if possible forestall the risks inherent in the emergence of new chemicals and new technologies which, if not controlled, may jeopardize or circumvent the convention, as well as to provide the best possible instrument for verification.

There is every evidence that the representatives of the scientific community are best qualified to perform this task of monitoring, advising and preparing the ground for decision-making. The scientific community has a universal calling, and, without moving away from its own role, must be in a position to transcend divergences in culture and in interests between States in order to provide an objective assessment of scientific and technological developments as they affect the convention.

For this reason, France proposed two years ago (cf. CD/747 of 23 March 1987) that an advisory scientific authority should be set up among the organs of the convention. Since that time this idea has gained ground and has been progressively taken up by the negotiators.

This authority, which would be known as the "Scientific Advisory Council", might act as a high-level advisory body for the organs of the convention, in particular the Executive Council and the Technical Secretariat, in preparing the ground for decisions to be taken to put the provisions of the convention into effect.

The present working paper sets forth a number of considerations concerning the establishment of the Scientific Advisory Council and the organization of its work.

1. GENERAL CHARACTERISTICS OF THE SCIENTIFIC ADVISORY COUNCIL (S.A.C.)

As an advisory body to [the Conference of the States Parties] [the Executive Council] [the Director-General of the Technical Secretariat], the S.A.C. will have the following tasks:

- To advise [the Conference of the States Parties] [the Executive Council] [the Director-General of the Technical Secretariat] concerning any scientific or technological innovation which may be of relevance to the objectives of the convention;
- To propose to [the Executive Council] [the Technical Secretariat] scientific or technical improvements which might enhance compliance with the provisions of the convention;
- To respond to requests from the various organs of the convention in its fields of competence;
- To provide advice in the same fields to States Parties at their request.

2. STRUCTURE

2.1. Composition

It must be based on scientific criteria and on criteria of professional competence. Sections corresponding to the scientific and technological disciplines of relevance to the various parts of the convention will be set up. These sections may include several prominent scientific figures in the following proposed areas:

-- Chemistry

- General chemistry and physical chemistry, organic and inorganic chemistry
- Analytical chemistry
- "Military" chemistry

-- Chemical engineering and chemical industry

-- Toxicology, including

- Toxicology of industrial products
- Toxicology of pesticides
- Toxicology of poisons of animal and plant origin

-- Pharmacology

-- Biotechnologies, including

- Microbiological and enzyme engineering
- Industrial applications

-- Military sciences

- Detection of CW agents
- Protection, decontamination
- Technology of chemical munitions (production, storage, etc.)

As an additional criterion to be taken into account in the composition of the S.A.C., efforts should be made to maintain a balance in the various fields (research, technology, industry, military sciences), in the light of the prior experience of the candidates.

2.2. Selection method

It will be based on level, qualification and experience, drawing on reference data yet to be defined such as publications, scientific, academic or professional responsibilities, distinctions and international experience.

2.3. Nomination of members

Proposals will be submitted by:

- The States Parties (for a third of the members);
- International scientific institutions (such as IUPAC and others to be identified) (for two thirds of the members).

The members of the S.A.C. will be [selected] [elected] by [the Conference of the States Parties] [the Executive Council] (to be determined).

2.4. Length of terms of office

Each member will be elected for (three) years, and may be re-elected only once.

2.5. Establishment of new sections

The S.A.C. will propose the establishment of new sections [to the Conference of the States Parties] [to the Executive Council] in the light of scientific and technical developments.

2.6. Obligations of members of the S.A.C.

(In particular, obligations in relation to confidentiality; to be added to)

3. TASKS

The Scientific Advisory Council will perform its advisory role in the following fields:

- Monitoring of scientific and technical developments as a whole, and particularly in fields of relevance to the objectives of the convention.
- Initial examination of the lists of chemicals following declarations of stocks and production facilities, and subsequently specific study of proposals for modification of the lists and related guidelines, and of

requests for their revision (originating either from the Technical Secretariat or from the States Parties).

- Well-grounded proposals for additions or modifications to the lists and the guidelines, and warnings concerning new toxins.
- Review of the scientific aspects of verification procedures, and in particular proposals for new verification methodologies;
- Advice on the development of economic and technical co-operation among the States Parties, as well as assistance;
- Advice on international co-operation in the collection and provision of scientific and technical data of relevance to the convention (international network of data banks).

4. ORGANIZATION

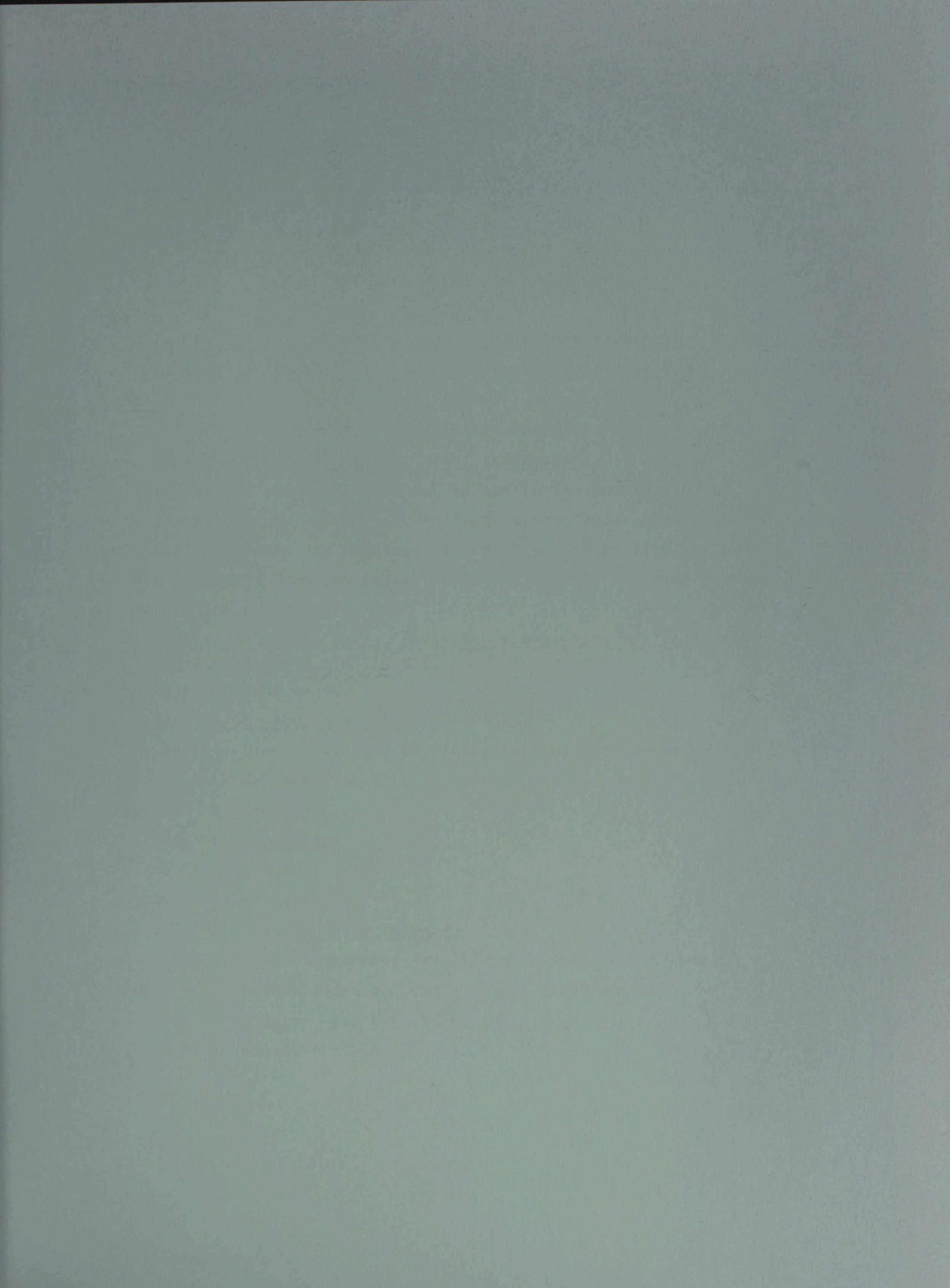
- Working procedures
- Frequency of meetings
- Permanent secretariat (the S.A.C.'s permanent secretariat might be located in the Technical Secretariat)
- Research contracts with other institutions
- Organization of seminars and conferences
- Participation in international or national scientific activities (congresses, seminars or symposia)

5. ESTABLISHMENT IN STAGES

During the preparatory phase, a "scientific advisory committee" might be set up as a subsidiary body of the Preparatory Commission.

Upon entry into force, the S.A.C. might be set up with (two) (three) prominent figures per section.

* * *



CONFERENCE ON DISARMAMENT

CD/917
CD/CW/WP.243

17 April 1989

Original: ENGLISH

BELGIUM

National Trial Inspection

Introduction

On the basis of the guidelines and the format contained in CD/CW/WP.213 and CD/881 a national trial inspection was performed in a multi-purpose facility.

A. General Approach

1. Objectives of the national trial inspection

The aim of the inspection was to assess the possibility of verifying that a facility, that is not subject to declarations under any of the schedules, is not used to produce any chemical listed in schedules [1], [2] or [3] and to obtain information on the degree of intrusiveness that such an inspection would require.

2. Provisions in the Draft Convention under which the trial inspections would take place - Article VI

No provisions exist.

3. Type of on-site inspection

Clarification inspection to verify that no prohibited activity takes place in an undeclared facility that is not listed to produce any of the scheduled substances.

4. Advance information

No declarations.

No "facility attachment".

5. Type of facility to be inspected

Stand-alone multi-purpose facility with several reactors, operating in "batch" mode; mainly solid end products are manufactured.

6. Type of declared activity at the facility

No declared activity.

B. Detailed Approach

1. The inspection mandate

No inspection mandate was negotiated a priori. As the inspection proceeded the necessity of documents to be made available and of areas to be made accessible were discussed.

2. Composition of the inspection team

The inspection team was composed of two scientists and one observer (diplomat).

3. Inspection equipment

The inspection equipment, mainly sampling equipment and analytical instrumentation, was furnished by the facility.

4. Activities prior to the arrival of the inspection team

The facility was notified five days before the inspection.

5. Advance preparations on site

(Initial visit.)

6. Escort and points of contact arrangements

Facility personnel designated by the plant manager escorted the inspectors during their visits, inter alia, for security reasons.

7. Other participants

None.

8. Duration of the inspection

- Inspection: one day.
- Report preparation: one day.

9. Measures to protect confidential information

The facility could broadly agree with the general terms of the current provisions in CD/881.

10. Opening conference

During the first part of the opening conference the inspector explained the verification system of the future convention in its general terms and outlined the purpose of the envisaged inspection. In the second part of the opening conference the general manager explained the layout of the facility, including details about the plant to be inspected.

11. Types of records needed and/or audited

- the production planning of the week and the day of the inspection (two shifts);
- the actual stocks (feed stocks, intermediate and end products);
- plant production records were made available at each reactor in operation.

12. Plant orientation tour

Before starting the inspection a guided tour of the complete facility was made, including storage area, outside storage and raw (starting) materials and solvents, main quality control laboratory and energy department; excluded from the tour were those chemical plants that were not subject to inspection and the waste water treatment area (to save time only).

13. Inspection of areas and facility equipment

The plant was inspected in detail, including control room, reactor vessels, centrifuges and drying vessels.

14. Inspection of operation procedures

For each reactor vessel in operation the actual operating instructions and reports were checked and compared with the planning of that particular day.

15. Sampling and sample-taking procedures

Samples were taken according to agreed guidelines (see part C).

16. Handling of samples

Due to the limited size of the inspection team the sample handling was completely carried out by facility personnel. During the exchange of views however, some ideas on the procedures for handling the samples were expressed (see part C).

17. Analysis of samples

The samples were analysed in the main laboratory of the facility located at a distance of 20 kilometres away from the inspected plant.

18. Types of analysis

The analysis involved mainly the application of spectroscopic techniques (Nuclear Magnetic Resonance, Mass Spectrometry and Infrared Spectroscopy) to verify that the structure of the synthesized product matched that on the production process record and on the operating procedures.

19. The documents made available to the inspectors were

- layout of the facility and detailed layout of the plant;
- production planning;
- detailed listing of chemicals stocks;
- batch operating instructions and batch operating reports (available at each reactor);
- global production reports of the last month/year.

20. Evaluation by the inspectors

The main question evaluated during the visit was: "is it possible to detect undeclared production of scheduled chemicals?" Relevant conclusions are presented in part C.

21. Closing conference

No closing conference, but a short debriefing.

22. Anomalies, disputes and complications

Verification of undeclared chemicals in the storage area through control of computer listings or computer search was shown to be equivocal (see part C).

23. Report of the inspection team

- During the briefing, a preliminary report, according to a check-list, could be elaborated, possibly in handwriting?
- A more exhaustive report can be sent later on; the facility, however insists on obtaining a copy of both reports.

24. Impact of the inspection on facility operations

An inspection involves at least two man-days (of highly qualified personnel).

25. Other matters

C. Specific aspects - conclusions

1. The inspection mandate

No inspection mandate was available. However, it was stated by the facility representatives that, in this particular plant, access to any part of the plant would not be refused, provided access and inspection were in agreement with the safety regulations. All documents related to production, acquisition and stockpiling of chemicals were made available for visual inspection on request. Such documents should, however, not leave the facility. Sample taking is preferably done at the end of the batch process in order not to interfere with normal production activities.

Traffic in and out the facility can be controlled by the inspectors.

2. Composition of the inspection team

The team was composed of two (technical) inspectors, in order to save time some actions were not fully carried out and the sample taking was also reduced. The size of the inspection team should be of at least two to three inspectors, one of them should be a trained analytical chemist.

3. Inspection equipment

The equipment was provided for by the facility. It was pointed out that inspectors should be provided with means for sealing the samples, since the analysis might have to be repeated in another location and with other instrumentation in case anomalies or complications arise (see 16). A member of the national authority, accompanying the international inspectors, might apply a second control seal.

4. Activities prior to the arrival of inspection teams

None.

5. Advance preparations on-site

Nihil visit.

6. Escort and point of contact arrangements

Inspectors arrived at the facility by their own means of transportation and met at an agreed point of contact. During the inspection, inspectors are escorted by facility personnel, whose presence can be useful for clarifications; such escorting personnel can order sample taking by specialized personnel upon request by and according to the instructions of the inspector.

7. Other participants

Representatives from the national authority may be present at the inspection, without interfering, however, in the activities of the inspectors.

8. Duration of the inspection

With a full size inspection team (two to three inspectors) an inspection will require two to three days if every reactor vessel in operation and the raw materials storage is to be controlled in detail, i.e. including the sample taking and their analysis.

9. Measures to protect confidential information

- Restriction on participation.

The facility representative expressed the opinion that the international organization will have to find ways to avoid that inspectors, after termination of their term in the organization, would in the near future be employees of industrial competitors.

- The inspectors should have an official mandate of the international organization, stating the principles for protection of confidential information in terms of CD/881.

- The identity of the inspectors shall be checked by the plant security staff (and by the national authority).

10. Opening conference

- The purpose of the inspection can be stated quickly and correctly.

- Layout of the facility and detailed plans of the plants to be inspected are necessary for the inspectors; they should be allowed to use them during their stay in the facility. (Colour) photographs taken from the air were valuable aids to orient the inspectors and to familiarize them

more rapidly with the surroundings. Anyhow, in this particular case, the logic structure of the facility greatly facilitated the rapid familiarization with the basic layout of the plant.

11. Types of records needed and/or audited

By using the documents mentioned in part B.11, it is possible, on the basis of accountancy operations, to "trace" a chemical, i.e. to verify when, where and how it has been used/synthesized (traceability). However, for the purposes of this particular inspection, traceability appeared to be less useful, since under this type of inspection mainly qualitative data (related to the structural formula of the produced chemical) were needed.

All documents were in the Dutch language; moreover frequent use is made of abbreviations and code numbers. Fluent knowledge of the language used at the facility seems to be a necessity for at least one of the inspectors.

12. Plant orientation tour

For this type of facility one hour would have been largely sufficient for an orientation tour (only the surroundings).

13. Inspection of areas and facility equipment

In the conduct of the inspection, the inspectors were not subject to any restriction on access to plant areas; however, access to storage areas of dangerous products would be more cumbersome due to additional security measures.

14. Inspection of operating procedures

Provided the inspectors do not copy relevant parts of the operating instructions, they have the possibility to check them on the site. Never should such operating instructions and other relevant documents leave the facility.

15. Sampling

As stated earlier, sampling of batch operations will normally occur after termination of the batch and preferably after drying of the product. Sample taking during batch operation might result in a complex sample that is sometimes difficult to analyse and that does not reflect the normal end product(s) of the batch; moreover in that particular case of sample taking during batch operation the temperature would have to be lowered to room temperature, resulting in loss of time; in some cases, e.g. synthesis under inert atmosphere (nitrogen), opening of the reactor might result in important product loss.

Samples were taken by the operating personnel using normal sampling equipment (used for quality control), according to usual plant procedures and under surveillance of the inspector.

16. Handling of samples

It was suggested that samples would be split up in three identical sub-samples sealed in an appropriate manner by the inspector and the national authority representative.

The normal procedure would be: analysis at the facility under supervision of the inspector; when problems or disagreements arise, a second sample could be analysed by the inspector and under supervision of the facility representative, e.g. at a local university; a third sample could serve for further analysis, under procedures to be developed, if disagreement continues to exist.

A need exists for appropriate procedures to store and transport such samples.

17. Analysis of samples

In this particular case the inspector was not always present during the analysis.

The use of sophisticated instruments, often fully computerised, may, in theory, allow an operator to "cheat", i.e. show a completely different spectrum by working "off line"; therefore at least one of the inspectors ought to be a trained analytical chemist who is familiar with the practice of the main analytical techniques used.

18. Types of analysis

The analysis should indicate a "matching" between the sample and the structural formula on the operating instructions.

With this type of analysis only qualitative data are checked, in accordance with the aim of the inspection.

19. Documentation of the inspection

All specific documents presented by the facility are to be treated as confidential and may not leave the factory, except for a general layout and some general data (not yet specified) on the facility.

20. Evaluation by the inspectors

It was found possible to draw correct conclusions with regard to the actual activities of the plant within the facility. Stating the right of inspectors to take samples everywhere according to established procedures might act as a deterrent.

Co-operation of the facility personnel is essential for an easy conduct of the inspection.

21. Closing conference

None.

22. Anomalies, disputes and complications

It was found to be impossible to check the presence of undeclared chemicals through computer search procedures, since a special code numbering system is used to enter the name of the searched chemical; introducing a "nonsense" code could result in a "not present" indication. To check for the presence of undeclared chemicals the complete warehouse would have to be controlled, which is virtually impossible under the time frame.

23. Report of the inspection team

It was deemed useful to report on the inspection in two steps:

- a short report containing the essential conclusions: either "all clear", or with some remaining problems or anomalies;
- a full report with detailed results on the inspection (if necessary).

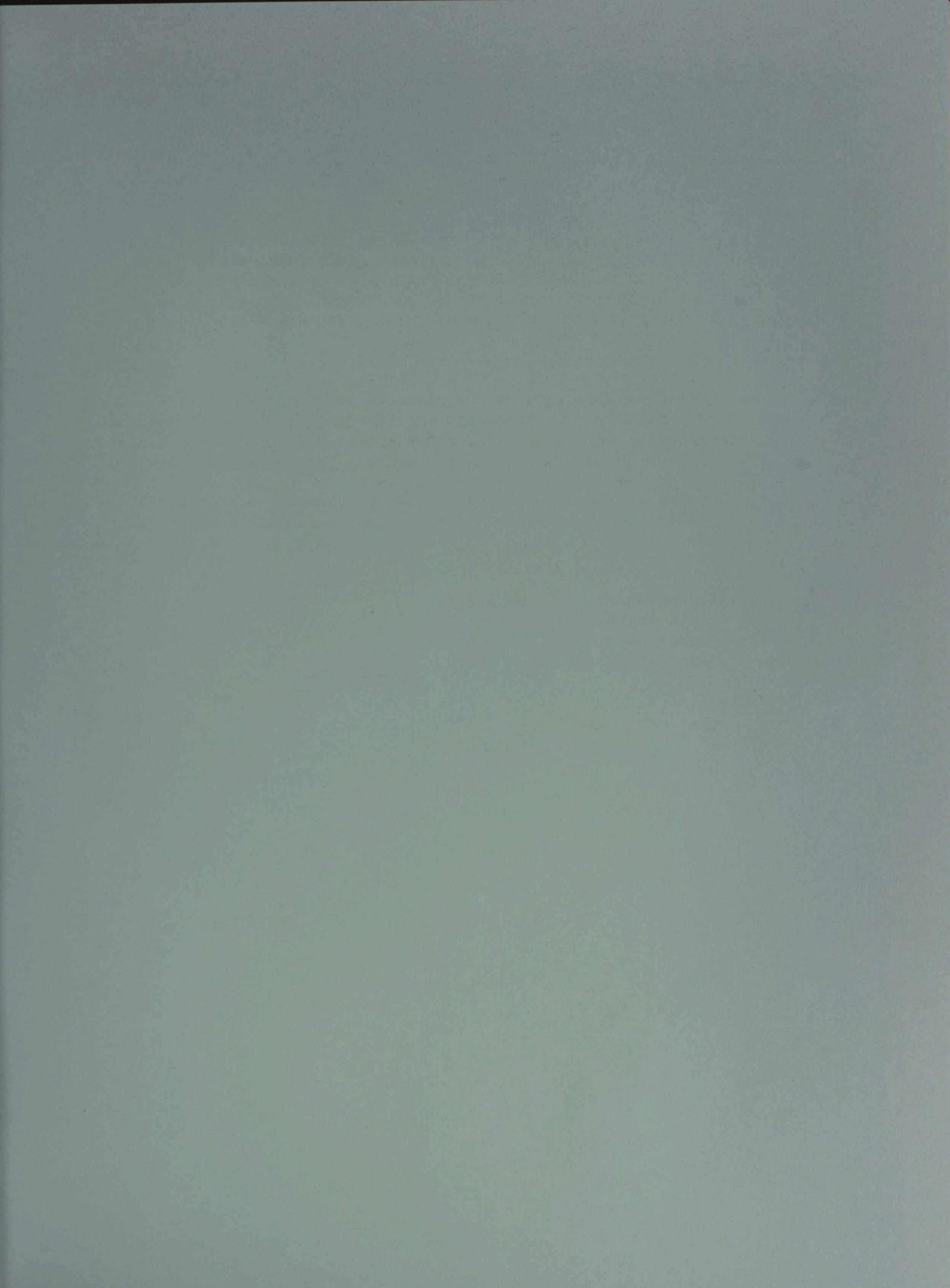
All reports are confidential. The national authority and the facility should also obtain a copy of each report.

24. Impact of the inspection on facilities operation

An inspection of this type is possible without significant interference with normal facility operation.

25. Other matters

The openness and good collaboration of the plant personnel greatly facilitated the easy conduct of this trial inspection.



CONFERENCE ON DISARMAMENT

CD/919
9 June 1989

Original: ENGLISH
(Extract)

LETTER DATED 7 JUNE 1989 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT FROM THE CHARGE D'AFFAIRES, DEPUTY PERMANENT REPRESENTATIVE OF THE PEOPLE'S REPUBLIC OF BULGARIA TRANSMITTING THE TEXT OF THE DECLARATION OF THE PRESIDENT OF THE STATE COUNCIL OF THE PEOPLE'S REPUBLIC OF BULGARIA AND THE PRIME MINISTER OF THE REPUBLIC OF GREECE SIGNED ON 23 APRIL 1989

I have the honour to transmit to you enclosed, herewith, the text in English of the Declaration of the President of the State Council of the People's Republic of Bulgaria Todor ZHIVKOV and the Prime Minister of the Republic of Greece, Andreas Papandreou, signed on 23 April 1989.

I should be grateful if you could circulate it in English, French and Russian as an official document of the Conference on Disarmament.

(Signed) VALENTIN BOJILOV
Chargé d'Affaires
Minister Plenipotentiary
Deputy Permanent Representative

DECLARATION

of the President of the State Council of the
People's Republic of Bulgaria Todor Zhivkov
and the Prime Minister of the Republic of
Greece Andreas Papandreou

The President of the State Council of the People's Republic of Bulgaria
and the Prime Minister of the Republic of Greece,

... encouraged by the favourable prospects for concluding a convention on
prohibition and destruction of chemical weapons, and determined to sign
it immediately upon its opening for signature,

... 1. State that the Governments of the two countries will elaborate norms
of behaviour with a view to turning their territories into a zone free of
nuclear and chemical weapons.

2. Declare that the two countries will, to that end, refrain from
actions which may hinder the establishment of a zone free of nuclear and
chemical weapons.

3. Call upon the other Balkan countries to support these efforts, with
a view to elaborating and adopting norms of behaviour aimed at freeing the
territory of all Balkan countries from nuclear and chemical weapons.

4. Hope that all states will encourage and assist the efforts to
establish a zone free of nuclear and chemical weapons in the Balkans.

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5. State that this Declaration is not directed against any third
country and does not affect the rights and obligations ensuing from the
agreements in force to which they are parties.

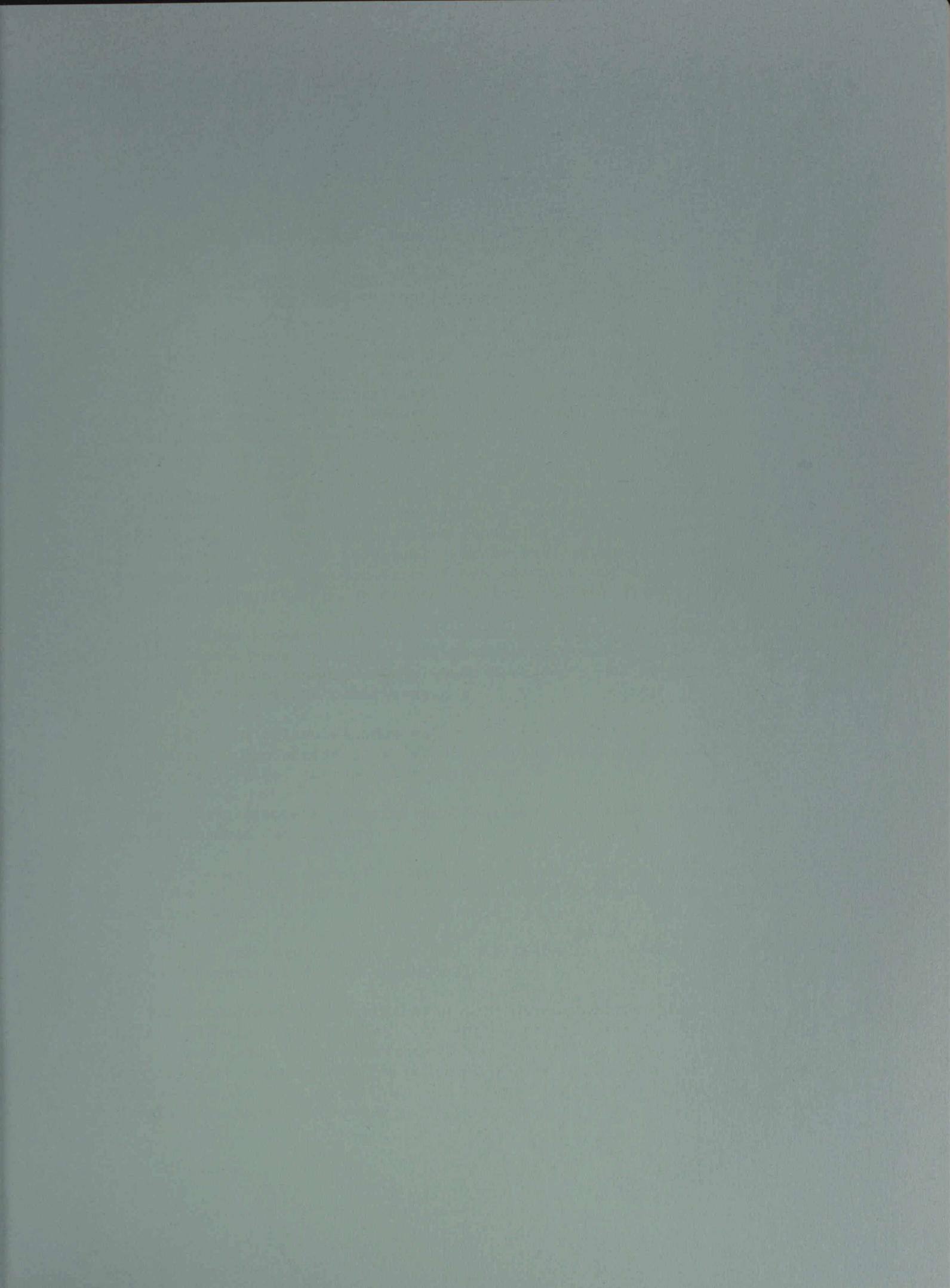
The Declaration was signed in Haskovo on 23 April 1989 in two original
copies in the Bulgarian and Greek languages, both texts having equal force.

PRESIDENT OF THE STATE COUNCIL OF
THE PEOPLE'S REPUBLIC OF BULGARIA:

s/ Todor Zhivkov

PRIME MINISTER OF THE
REPUBLIC OF GREECE:

s/ Andreas Papandreou



UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Verification of the Chemical Weapons Convention: Practice
challenge inspections of military facilities

1. CD/715 of July 1986 set out detailed proposals by the United Kingdom for the conduct of a challenge inspection under article IX of the Chemical Weapons Convention. These proposals placed a basic obligation on any State party receiving a request for clarification or resolution of any matter causing doubts about compliance to demonstrate to the other treaty States, and especially the requesting State, that it remains in full compliance with the treaty.

2. Building on the ideas in CD/500, the United Kingdom proposed that each State party should have the right directly to request a challenge inspection of another party, and that any State receiving such a request should allow an inspection team from the technical secretariat, accompanied by a representative from the requesting State to carry out a comprehensive investigation in order to determine the facts of the case.

3. The United Kingdom's proposals recognized that a State receiving a challenge might have legitimate security interests at stake. In such exceptional circumstances a State would have the right to propose alternative measures to demonstrate compliance.

4. In 1988 the United Kingdom set out to test how these proposals might work in practice by conducting a series of practice challenge inspections at military facilities. Our objectives were:

(a) To assess the security implications of challenge inspections under a Chemical Weapons Convention;

(b) To examine ways of demonstrating compliance with a Chemical Weapons Convention while protecting legitimate security interests unrelated to chemical weapons;

(c) To draw any lessons for how challenge inspections under a Chemical Weapons Convention might be conducted.

5. It was decided that practices should be conducted across a range of Ministry of Defence facilities from ammunition storage facilities through to research and development facilities, since different types of facility would pose different problems for inspection. After preliminary visits to various candidate facilities, it was decided to hold the first practice at a conventional ammunition storage facility.

6. Before the first practice, procedures and guidelines were drawn up, including an inspection protocol. The first trial inspection then took place in October 1988 and was followed in March this year with a trial inspection of another ammunition storage depot. A note on administrative and other practical aspects of these inspections is contained in the annex to this paper.

7. The remainder of this paper offers some interim observations on challenge procedures in the light of our first two practices. It should be emphasized that the two practices to date have been conducted at facilities which are not particularly sensitive, and are only the first part of a larger programme. Further trials at more security sensitive facilities will be necessary before firm conclusions can be drawn. The United Kingdom plans to hold such exercises later this year.

SOME PROVISIONAL OBSERVATIONS

Definition of challenged facility

8. The effectiveness of the inspection depends partly on the wording of the challenge. A very specific definition of a challenged facility is therefore required. One way forward might be to define the facility by a combination of name, description and map co-ordinates. Our experience shows that precision is necessary in order to avoid arguments over rights of access. More work is needed on guidelines for access to areas outside the designated site, especially neighbouring facilities which are subsequently shown to be closely connected with the challenge facility.

Notice of inspection

9. It is clear that even in as short a period as 48 hours, considerable quantities of ammunition could be shipped out of a storage facility. It might therefore be desirable for an advance party to arrive immediately after the issue of a challenge to seal the facility and monitor movements in and out although there could be significant practical difficulties which would need to be overcome. The question of clean-up times in civil chemical facilities is also relevant in this context.

Size and composition of inspection team

10. It will be difficult for a team of five inspectors to "secure the site" and carry out all their inspection duties on large sites. They might need to be accompanied by a sizeable support staff who could seal the site, monitor movements in and out on a 24 hour basis, assist in the collection and monitoring of samples both on and off site, and provide general administrative services to the inspection team. The use of physical seals on access points to the site (see below) would reduce the demands on inspection manpower but our experience suggests that for very large sites five inspectors might not be sufficient.

11. The resource implications of a large support staff and the earlier arrival of an advance party both for the technical secretariat and for the challenged State would however require further examination and priorities might need to be established.

12. It would in our experience greatly improve the effectiveness of the inspection team if they were assisted in their task by the inclusion of an expert in the activities claimed by the challenged State to be taking place at the challenged facility. This enables a better and earlier assessment to be made of the plausibility of the claims and decisions on where and what to inspect.

Role of challenging State observer

13. The role of the observer from the challenging State is important. Questions to be resolved are whether or not the observer should be able to express his views on the conduct of the inspection to his country's satisfaction; to what extent he is able to influence the inspection plan; whether he can communicate formal requests of the challenged State via the inspection team leader; and what restrictions can be placed by the challenged State on the movement and access of the observer for security reasons. Depending on the answer to these questions one observer might not be enough to cover a seven-day inspection, especially if the inspection team is split into two or more.

Securing the site

14. "Sealing the site" at a large facility with many access points is a difficult task. Should all gates except the main entrance be sealed? Should seals be frangible but with inherent integrity in cases of emergency access gates? Should the main entrance be manned on a 24-hour basis to monitor all movements in and out? Our experience so far suggests the answers to these questions should be yes.

15. In order to prevent the moving of clandestine CW stocks round the site in advance of the inspection team, the team would ideally need to secure and seal transport systems within and from the facility.

Samples

16. There will be a need to define the sampling equipment required at different types of facility. If the inspection team brings all the necessary equipment with it this might include, for liquid and solid samples, sample jars, scoops, ladles, funnels, scrapers, dip sticks, means of cleaning sampling equipment between samples; protective clothing, boots, gloves, overalls; for vapour samples, sorption tubes for later laboratory analysis and draeger tubes. Agreement is also necessary on what equipment the challenged State should be expected to provide, who should take the samples, and where they should be analysed. Our experience suggests that the technical secretariat should provide as much of the equipment as possible and that analysis should be carried out by both the challenged State and the inspectors to guard against fraudulent or faulty analysis. The samples themselves would need to be carefully loaded and sealed.

How to demonstrate that a weapon is not a chemical weapon?

17. A number of possible methods have been considered; it is not clear yet what is most acceptable. For example:

(a) Reference to handbooks giving details of weapons and their distinctive markings would be helpful but some of them may be classified. In any case they could not be relied upon as conclusive proof.

(b) Portable X-ray equipment could reveal something of the character of the contents of a shell. It could for example show the presence of a liquid, but not necessarily certain powders unless they had a distinct signature. However, X-rays might reveal classified details of weapon design.

(c) A weapon could be fired - but this requires a suitable range.

(d) The weapon could possibly be broken open by use of a small explosive cutting charge. This, however, is a hazardous operation which could only be undertaken at a suitably licensed demolition area.

Safety

18. Safety issues frequently arose during the inspections. It is essential that the initial briefing of the inspection team includes a detailed brief on safety procedures by representatives of the challenged facility. It is also necessary to establish in an ammunition storage facility, that all the equipment brought by the inspection team can be safely operated in the presence of explosives. Standard certification of such equipment might be a possibility.

Security during a challenge inspection

19. As had been expected access of an inspection team to the facilities revealed details of the site, of ammunition natures and, at least in broad terms, total stock holdings, of base procedures, and of the lay out, design and capacity of storage facilities. The effects of this could be alleviated to some extent by the rotation of sensitive stock after an inspection, although this option may only be feasible in larger facilities. It would also be possible to take simple precautionary measures such as the removal of all notices, charts and displays, locking away of all papers, logging off computer systems which might disclose sensitive information not relevant to the inspection, and the securing of sensitive equipment in workshops, laboratories and test areas.

Managed access/alternative arrangements

20. On several occasions only partial access was necessary to satisfy the inspectors. This suggests that the conduct of an actual challenge need not necessarily entail complete and uncontrolled access to all parts of the site. The inspectors might conclude in the light of the overall level of access and co-operation granted to them, that only partial access would be required. Locations to which access may need to be controlled for safety rather than security reasons, for example, may only require access by one inspector, or may be viewed from a distance.

21. Shrouding should be kept to the minimum necessary to protect sensitive information. Varying levels of access to the inspection team, from visual observation only of the shrouded items, through to touching the items, use of monitoring equipment and removal of part of the shroud is possible and could be effective depending on the sensitivity of the items and the overall

impression treated by the facility under inspection. A question which needs to be addressed however is what degree of shrouding is acceptable. Individual cases will inevitably differ but guidelines will be necessary for the inspectors to be able to make objective assessments.

CONCLUSIONS

22. The two initial practice challenge inspections have thrown a great deal of light on important questions about procedures and indicated possible solutions to a number of problems. They have confirmed our belief that challenge inspection is an important "safety net" element in the overall verification régime. However, the complexities of challenge inspection require work to be done, in particular, on the issue of managed access, in order to address all these questions and identify any others which need to be considered. A programme of further exercises is being devised and the United Kingdom hopes to present a further paper to the Conference in due course as more lessons are learned. In the meantime the United Kingdom strongly recommends that other nations participating in the CWC negotiations should conduct their own practice challenge inspections of military facilities and report their findings to the Conference.

Annex

DESCRIPTION OF UNITED KINGDOM PRACTICE CHALLENGE INSPECTIONS

The facilities

1. The first practice challenge inspection took place over a two-day period at a conventional ammunition storage facility, which covers an area of approximately 20 sq. km with a total of over 200 Igloos and Standard Explosive Storage Huts (SESH) together with support processing buildings and dedicated railhead and loading sheds. The facility perimeter is some 20 km long and is penetrated at intervals by both road and rail access gates. There are additionally a number of emergency gates for fire and evacuation purposes.

2. The second practice challenge inspection was held over two days at another conventional ammunition storage facility, considerably smaller than the site of the first practice, covering an area of some 4 sq. km. The perimeter is about 8 km in length and contains less than 20 underground and semi-underground explosives storage buildings together with support processing buildings, dedicated railhead and loading sheds, and administrative support buildings.

Teams

3. The first exercise involved a total of 20 participants, comprising 5 exercise control/recording staff, 4 inspectors, 1 representative of the challenging State, 4 reception teams, and 6 observers. Both the inspection and reception teams included scientific and ammunition experts, and officials well versed with the chemical weapons negotiations. For the second exercise, in the light of experience gained at the first the inspection team was expanded to 5, and the reception team to 8, with 1 challenging State observer, 4 control staff/recorders, and 2 observers. The same disciplines were represented on both inspection and reception teams, with the addition of an explosives safety adviser to the latter.

Administrative arrangements

4. Two minibuses were placed at the disposal of the inspection team throughout the first exercise. A room in an administration block was made exclusively available to the inspection team. The base photographer was on call throughout the exercise to take photographs at the request of the inspectors. Similar arrangements were made for the second exercise, with the exceptions that in order to allow as much time in the field as possible and to increase the realism of exercise play during the inspection, all exercise briefings were completed the day before the start of the exercise; the inspection team was briefed off-site; two official photographers were made available to take photographs at the request of the inspection team, and a video record was made of key parts of the exercise.

Documentation

5. For the first exercise documentation included an inspection protocol, a game plan, and scenario. These were also used during the second exercise, for which additionally a detailed set of procedures for the reception of a challenge inspection was prepared for use by the challenged facility, together with a memorandum of guidance for the staff.

Conduct of first exercise

6. On arrival at the site on day one of the exercise the inspection team, following initial introductions and explanations to the reception team of the purpose of the inspection, were given a briefing on the work and layout of the facility by the commanding officer. Following this the inspection team were offered - and accepted - a preliminary tour of the facility by minibus. The inspection team then considered and presented their inspection plans. For the remainder of the exercise the inspection team were allowed to inspect any part of the facility and to select at random any cases of ammunition for opening and inspection at the ammunition processing area. The team was able to divide into two when they deemed it necessary to cover more ground in the time available.

Second exercise preparation

7. Drawing on the experience of the first practice more extensive preparations were made by the facility for the second exercise. These included the covering of sensitive information displays, the briefing of all staff as to the purpose of the exercise, and the consideration with reception team advisers of their tactics for the inspection.

8. Because neither of the facilities selected for the first two practices contained such sensitive stocks as to preclude access to a particular building or visual examination it was decided to introduce "sensitive" areas for exercise play where no access or strictly limited access would be permitted, in order to address the issue of managed access.

Conduct of second exercise

9. The inspection team were given an introductory briefing on the facility, and on safety procedures. A written safety brief was given to each inspection team member. In order to protect information about the layout and function of the facility buildings the inspection team were given only a schematic plan of the site.

10. The inspection team were offered an introductory tour of the facility together with a suggested itinerary for the inspection. They chose however to first "seal" the site by placing a seal on all the gates, and then took up the offer of an introductory tour of the facility.

11. From this point in the inspection the inspection team either together or in two parts selected at random parts of the site they wished to visit, and were able to choose any samples of ammunition for closer examination in the ammunition processing area. They also took samples of soil and checked the location of drainage and other pipes against a "facilities" chart.

12. Throughout the inspection the reception team adopted an open approach to questions, but entirely correctly, their replies were confined strictly to what was relevant to satisfy the inspection team that the facility was in compliance with the Chemical Weapons Convention. The inspection team considered that they were able on this basis to obtain the information they needed to carry out their task.

Location of the facilities

On the site of the old one of the facilities the following facilities were provided and existing ones to be removed. The location of the facilities was determined by the location of the existing facilities and the location of the existing facilities. The location of the existing facilities was determined by the location of the existing facilities and the location of the existing facilities.

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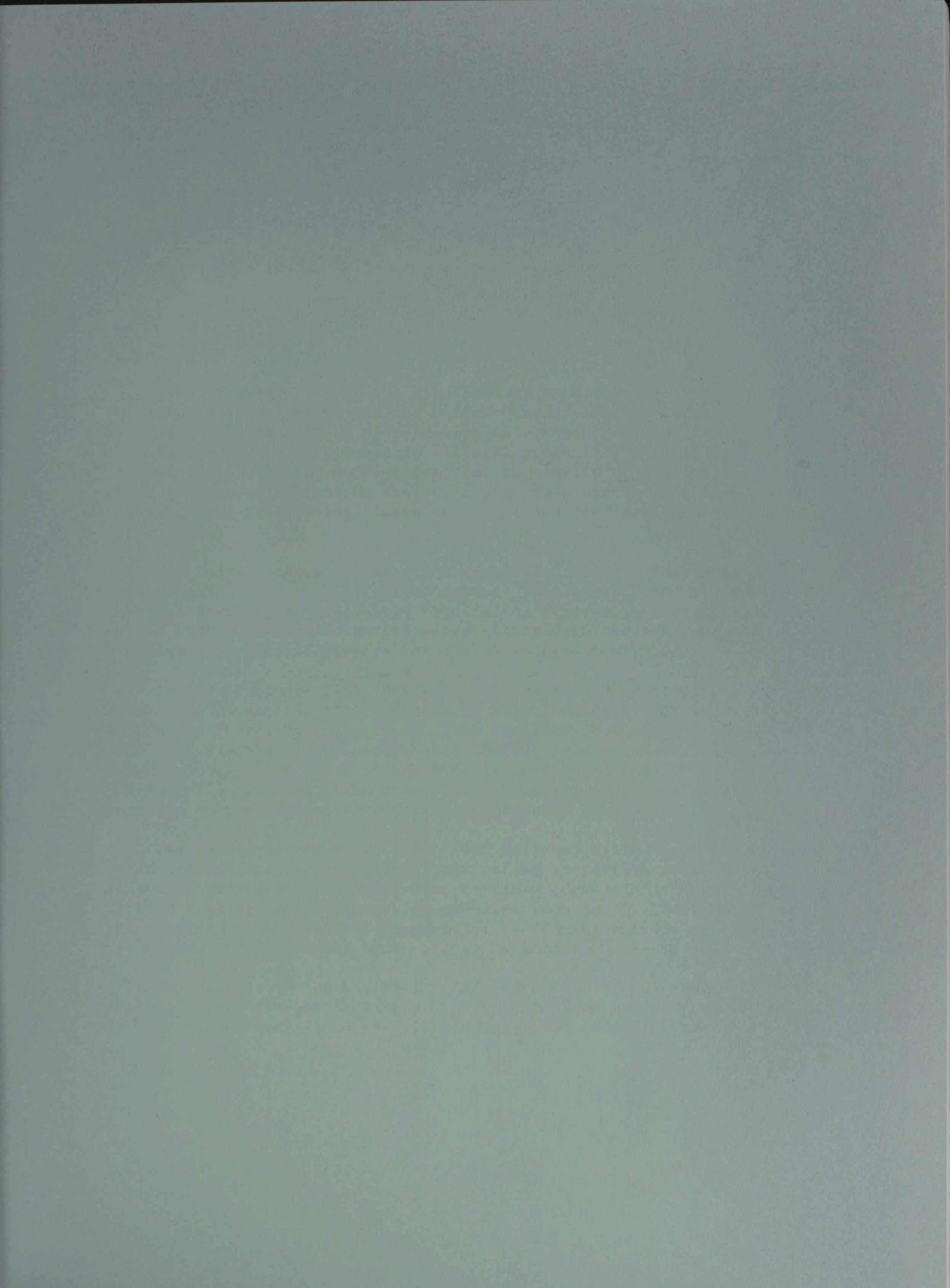
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CONFERENCE ON DISARMAMENT

CD/922
CD/CW/WP.250

22 June 1989

Original: ENGLISH

UNITED STATES OF AMERICA

REPORT ON A UNITED STATES NATIONAL TRIAL INSPECTION EXERCISE

Introduction

From the beginning of the negotiations on a chemical weapons ban, the United States Government and the United States chemical industry have recognized the importance of providing assurance that the civil chemical industry is not being misused for illegal production activities. Government and industry have been working together to develop provisions for a future chemical weapons convention that will provide effective verification and at the same time protect legitimate sensitive and confidential business information.

The United States welcomed the suggestion in 1988 that States participating in the negotiations conduct trial inspections in the civil chemical industry to assist the negotiating process. Consequently, the United States delegation participated actively in the informal open-ended consultations held to prepare for such inspections.

In late February 1989, United States experts conducted a national trial inspection at the facility operated by Akzo Chemicals, Incorporated in Gallipolis Ferry, West Virginia. This facility produces a Schedule [2] chemical, dimethyl methylphosphonate (DMMP), from a Schedule [3] chemical, trimethylphosphite. Some of the DMMP is used on-site to produce another Schedule [2] chemical. The Schedule [2] chemicals are legitimate commercial products used as flame retardants and for other purposes.

The United States views this first national trial inspection as the beginning of a process to develop and refine inspection procedures, not as a test of procedures that are close to final form. This first inspection omitted testing some necessary procedures, such as notification, transportation, and escort arrangements. Also, other gaps have been recognized and procedures that need to be improved have been identified.

The results of the national trial inspection are presented in this working paper, drawing in part on the format elaborated during the Conference on Disarmament open-ended consultations in 1988 (CD/CW/WP.213).

A. GENERAL APPROACH

1. Objectives of the national trial inspection

The basic objectives of the national trial inspection were to evaluate the approach to monitoring of Schedule [2] facilities as contained in CD/874, and in particular:

- to evaluate the ability to determine whether Schedule [1] chemicals have been produced in the facility;
- to evaluate the ability to determine whether the facility has produced types of quantities of Schedule [2] chemicals not included in its declaration or has diverted Schedule [2] chemicals to prohibited purposes;
- to estimate the costs of such an inspection;
- to determine the physical constraints on inspection procedures;
- to measure the operational and economic impact of an inspection on a commercial facility; and
- to evaluate the preparation needed for an inspection.

2. Provisions in the draft convention under which the national trial inspection took place

The national trial inspection was based on the provisions governing monitoring of Schedule [2] chemicals as set forth in the Annex to Article VI [2]. Detailed information needed for inspection planning was obtained in an initial visit to the AKZO facility on 5 and 6 December 1988. The trial inspection followed two and one-half months later, on 21-23 February 1989.

3. Type of on-site inspection

The national trial inspection can be characterized as a "routine" inspection and included an initial visit.

4. Advance information

(a) Declarations

The facility provided a detailed declaration, which included full data for 1988, in the format specified in the Annex to Article VI [2].

(b) Agreement on inspection procedures

A facility agreement was negotiated after the initial visit. The model agreement contained in CD/874 (pp. 125-128) served as the starting point for the drafting of the facility agreement with additions and changes as appropriate.

5. Type of facility inspected

The declared facility inspected is a multi-purpose industrial chemical facility using batch processing. It is part of a larger site with three other operating facilities. The chemicals produced at the site are primarily organophosphorus chemicals used for flame retardant applications.

6. Type of declared activity at the facility

The facility inspected declared the following activities:

- consumption of a Schedule [3] chemical, trimethyl phosphite (TMP; used as a key feedstock);
- production of Schedule [2] chemicals, dimethyl methylphosphonate (DMMP) and a polymeric flame retardant produced from it;
- processing of a Schedule [2] chemical without chemical transformation (formulation of the polymeric flame retardant); and
- processing of a Schedule [2] chemical with chemical transformation (conversion of DMMP to a polymeric flame retardant).

7. Actual activity at the facility

During the inspection, all of the declared activities were operational, except for the processing of a Schedule [2] chemical without chemical transformation. The declared facility consisted of four non-contiguous areas, including a production facility, storage area, analytical laboratory and waste treatment area, which were active.

B. DETAILED APPROACH

1. The inspection mandate

The inspection was governed by a facility agreement based on the model provided in CD/874 (p. 125). This agreement specified the drawings and records to be examined, the equipment to be inspected and points where samples were to be taken. It incorporated, by reference, a separate document containing detailed inspection procedures for Schedule [2] facilities.

2. Composition of the inspection team

The inspection team was composed of:

- team leader: a chemical engineer experienced in production of Schedule [1] and [2] chemicals, from the United States Arms Control and Disarmament Agency;
- deputy team leader: a chemical engineer experienced in production of Schedule [1] and [2] chemicals, from the United States Department of Defense (DOD);
- three chemical engineers, one from DOD and two from AKZO Chemicals, Inc.;
- an analytical chemist, from DOD.

3. Inspection equipment

Inspection equipment (sampling and safety) was furnished by the facility. The use of safety-related equipment (hard hats, safety glasses, escape respirators, explosion-proofed radios) was required by the facility's insurance regulations.

4. Activities prior to the arrival of the inspection team on-site

Inspection procedures applicable to any facility were developed by a controller group, based on the provisions of the Annex to Article VI [2]. A facility agreement and a detailed inspection plan were then prepared, based on the facility declaration, the initial visit and the general procedures.

The exact inspection date was established three weeks in advance by mutual consent.

5. Advance preparations on-site

No special physical preparations were made on-site, although the facility adjusted its production schedule so that DMMP would be in production during the trial inspection.

6. Escort and points of contact arrangements

Facility personnel served as informal escorts. The draft convention provisions regarding escorts were not included in the scope of the trial inspection in order to reduce its complexity.

The facility manager was the designated point of contact at the site.

7. Other participants

The trial inspection process was managed by an inter-agency group with representatives from the United States Arms Control and Disarmament Agency, the Office of the Secretary of Defense, the Office of the Joint Chiefs of Staff, the Department of the Army, the On-site Inspection Agency and other interested agencies. This group included several members of the United States chemical weapons convention negotiating team. Members of the inter-agency group participated in the trial inspection as observers, along with a representative of the Chemical Manufacturers Association. CMA is a non-profit trade association representing more than 90 per cent of the basic chemical manufacturing capacity in the United States.

8. Duration of inspection and initial visit respectively

- initial visit: one and one-quarter days (seven and one-half man-days);
- preparation of "facility agreement": 10 man-days;
- inspection: two and one-half days (15 man-days);
- NTI inspection report preparation: 30 man-days.

9. Measures to protect confidential information

It was agreed in advance by both sides that all information to which government personnel were given access would be treated as confidential business information (CBI). A special repository was established at the site for sensitive documents used by government personnel. Some CBI data computations were removed from the site for the inspection report, however, no CBI facility drawings or documents on operating procedures were removed from the site.

10. Opening conference

During the opening conference, the inspectors established their credentials and outlined their planned activities. A facility representative provided a safety briefing. About one hour was required for this conference.

11. Types of records needed and/or audited

Two inspectors focused on examination of the production records.

First, a gross material balance for the facility for 1988 was computed, starting with the key feedstock material and tracing its use for production of DMMP and other products. Summary records for feedstock receipts, product shipments and inventories were used. This gross balance was completed in approximately three hours.

Second, the daily records for the key reactor system were reviewed to determine the quantity of DMMP produced and to establish equipment usage. This consumed the remaining eight hours available for the records audit. The production estimates made by the two methods were compared.

During the last half day of inspection, the equipment inspection subgroup spent three hours reviewing daily records for two other reactor systems. The purpose was to verify that these reactors had not been used for DMMP production but had been used for DMMP consumption. As a result of this records search, idle and production time for all three reactor systems could be accounted for.

The types of records used are listed in Attachment 1.

12. Plant orientation tour

Immediately after the opening conference, the inspection team toured the declared areas subject to inspection. This consisted of the DMMP production area, the storage area, the analytical lab and the waste treatment facility. They did not visit other areas of the complex. The orientation tour lasted approximately two hours, after which the team met to discuss the data gathered from both the opening conference and the tour. The team evaluated their initial inspection plan and the facility agreement and modified their planned approach. In particular, the equipment and sampling provisions of the inspection plan were refined.

13. Inspection of areas and facility equipment

Equipment inspection efforts concentrated on the DMMP reactor system and all equipment connected to it, including two other reactor systems, feedstock storage and a variety of holding and storage tanks. (The two other reactor systems were utilized to convert DMMP to another product.) Physical measurements were made to assist in verification of the actual size and volume of the vessels.

Visual observations of the product storage warehouse, analytical laboratory, and waste treatment facility were made. In addition, samples were taken later both from product in drums and from the waste treatment tanks to validate chemical content.

14. Inspection of operation procedures

Production and ancillary equipment was examined in detail for suitability for the declared activities and for production of Schedule [1] and other extremely toxic chemicals. Particular attention was paid to presence/absence of equipment and safety devices specially designed for containment of extremely toxic chemicals. Equipment characteristics were cross-checked against original specifications from equipment suppliers to verify size and materials of construction.

Interviews were conducted with personnel involved in reactor operation, sample analysis, and operation of receiving and shipping tank truck scales to verify types of operations and degree of hazardous materials being handled.

15. Sampling and sample-taking procedures

Samples were taken by facility personnel as requested by the inspectors as follows:

- samples of contents of the DMMP reactor system and a selection of the tanks and process vessels connected to it;
- samples of the key feedstock used to produce DMMP;
- random product sample of DMMP;
- samples of waste water from various points in the facility;
- wipe samples from various components of the reactor system, walls and beams that might reveal chemicals that had been used prior to the inspection; and
- a soil sample in the vicinity of relevant storage tanks.

16. Handling of samples

Each sample was recorded in a log-book, given a code number, and labelled. Later, in the facility laboratory, the samples were opened, subdivided into four portions, relabelled, covered with dry nitrogen and sealed with a prototype tamper-indicating seal. Care was taken to maintain a

secure chain of custody for the samples from the facility to the off-site analytical laboratory. It was noted that a "secure container" would be required for samples.

17. Analysis of samples

Samples of feedstock, product and reactor contents were analysed on-site by facility personnel in the presence of inspectors. Sophisticated analytical methods (gas chromatography (GC) and combined gas chromatography - mass spectrometry (GC-MS)) were used. Duplicates of these samples were also analysed off-site at a DOD lab. All samples requiring analysis at trace levels, including soil samples, wipe samples and waste water samples, were analysed at the off-site lab. The following analytical methods were used:

- nuclear magnetic resonance (NMR): for phosphorus and fluorine;
- gas chromatography (GC): for checking the on-site analyses;
- gas chromatography - mass spectrometry (GC-MS): for chemicals present at trace levels;
- ion chromatography: for fluoride ion;
- atomic absorption - inductively coupled plasma spectrometry: for phosphorus and sulfur.

18. Types of analyses

On-site analyses were performed to verify the presence and purity of the declared chemicals to assist in determining the material balance. Off-site analyses were performed to validate these results and analyse for trace amounts of chemicals that might indicate previous production of Schedule [1] chemicals or non-declared Schedule [2] chemicals.

19. Documentation of the inspection

The trial inspection was documented through still photographs of the DMMP reactor system and sampling points and video tapes of the principal activities.

20. Evaluation by inspectors

The inspectors' evaluation covered the following aspects:

- deviation from initial plans;
- problems encountered;
- usefulness of inspection procedures;
- conclusions that could be drawn about the facility's activities; and
- matters or concerns about which no conclusions could be drawn.

21. Closing conference

During the closing conference, the inspectors reviewed their activities on-site and outlined their findings. This conference required approximately one half hour.

22. Anomalies, disputes and complications

All anomalies were satisfactorily resolved. These included:

- a discrepancy in the material balance due to initiation of a batch in one year and its completion in the next year.
- a discrepancy between the declared and calculated production capacity due to the use of average production rates rather than maximum production rates.
- discrepancy between equipment present and that shown on engineering diagrams provided inspectors.
- omission of some toxic material safety procedures used in the facility but not mentioned at the opening conference.

No anomalies were intentionally introduced.

23. Report of the inspection team

The inspectors' report was prepared off-site during the week following the inspection as a part of a detailed evaluation of the trial inspection. The inspection team report fully documents all activities and findings of the inspection and the first NTI exercise.

24. Impact of the inspection on facility operations

Total costs to the facility were estimated at \$10,000 based primarily on the time and effort required of the facility officials for preparation of the initial declaration and participation in the trial inspection.

The inspection had minimal impact on plant operations. However, without full co-operation between facility officials and the inspection team, the inspection could have required a slowdown or possibly even stoppage of some operations.

25. Other matters

C. RESULTS

Results from the trial inspection are still being evaluated. At this stage, however, a number of preliminary findings have emerged that warrant discussion in the Ad Hoc Committee on Chemical Weapons. These findings can be grouped under the following headings: inspection team rights and responsibilities; inspection planning; general inspection approach; equipment inspection; records audit; sample analysis; confidentiality; and areas requiring further work. These findings are discussed below.

1. Inspection team rights and responsibilities

The inspection demonstrated the difficulty of defining precisely what areas of a chemical production site are to be declared and inspected. Schedule [2] chemicals typically are produced in a multi-purpose reactor system housed in a building containing other reactors and process equipment not included in the inspection per se. The equipment may be interconnected to a substantial degree to provide operational flexibility. Furthermore, the overall site may contain other production units which are capable of producing Schedule [2] chemicals. These facts make it necessary to specify more carefully in the Annex to Article VI [2], and in the subsidiary arrangements, what areas of a chemical production site should be subject to declaration and routine inspection. It should be noted, on the other hand, too precise a specification could hinder observation in areas that are not declared.

Specifying responsibility for provision of safety equipment also presents difficulties. Inspectors can be expected to prefer to bring their own equipment that is known to be reliable, rather than to trust equipment provided by the facility being inspected. Standards may vary substantially from facility to facility and from country to country. Under current United States insurance regulations, use by inspectors of their own equipment may not be permitted. One possible solution is to establish agreed-upon safety equipment standards. A facility would be required to provide equipment that meets the standard or alternatively to allow the inspectors to bring such equipment with them.

2. Inspection planning

The inspection demonstrated the great importance of a thorough initial visit. The initial visit should be used to establish the degree of access to equipment, sampling locations and data which would then be specified in the facility agreement. It should also provide the foundation for the detailed inspection plan, including the sequence and duration of inspection activities, and the number of inspectors required.

The importance of the initial visit and the degree of disclosure required should be more clearly specified in the Annex to Article VI [2].

3. General inspection approach

The trial inspection demonstrated clearly that inspection visits alone cannot provide assurance that the quantity or types of Schedule [2] chemical produced is correctly declared. Use of special instruments between inspections should be permitted when deemed necessary by the inspectors.

Consideration needs to be given to development of simple, tamper-indicating, reliable instruments that could monitor the process equipment continuously. An instrument could monitor one or more key variables, such as temperature or flow, or monitor the chemical composition of the output, perhaps using infrared spectra. The instrument could be designed to alert inspectorate headquarters automatically when an anomaly is detected. Alternatively, during an inspection visit recorded data could be automatically read out and compared to facility records. The instrument should be designed to allow recalibration or certification during a routine inspection.

Obtaining a satisfactory material balance and confirming that process equipment capacity has properly been declared are necessary measures, but they are insufficient in themselves. These measures could be circumvented simply by not recording in the permanent books of the facility those production activities that lead to "excess" Schedule [2] chemical. In other words, the production would be "off the books". Facility records would falsely indicate that the equipment was either idle or being used for production of a non-Schedule [2] chemical that is not subject to monitoring.

The trial inspection also demonstrated that equipment inspection, records audit and sample analysis are all essential components of an effective inspection régime.

4. Equipment inspection

Visual examination of equipment and review of its operating and design specifications were found to be particularly useful in assessing whether the declared facility was capable of producing Schedule [1] or other extremely toxic chemicals. (Visual examination alone is not sufficient to determine whether such chemicals have been produced in the past.) Further attention is necessary to develop methods for determining quickly what materials of construction are used for the process equipment. Material of construction is an important factor in determining the potential for conversion to other Schedule [2] or Schedule [1] chemicals.

Examination of the equipment, together with the records audit is required to determine the production capacity of the facility. This should be based on the maximum possible use of the equipment dedicated to the Schedule [2] chemical production.

To assist inspectors in looking for evidence of Schedule [1] chemical production, a diagram showing possible production routes involving the declared Schedule [2] chemical should be available to the inspection team. This diagram could also be associated with types of process equipment required by the alternative production methods. The existence of such equipment could then be assessed during the inspection.

5. Records audit

The trial inspection showed that modern chemical production practices generate a multitude of interlocking records that can be usefully audited as a means of monitoring declared chemical production. The limitations of records audits must be recognized, however. It would be possible, although involved, to keep two complete sets of records for a chemical production facility - one real and one false. It would in many cases be relatively simple to conduct operations that are entirely "off the books". Thus, other techniques must be used in conjunction with the records audit.

The records audit proved to be the most time-consuming aspect of the trial inspection, even though the auditing task at this facility was relatively simple. The processes involved were simple, high-yield chemical conversions. Only three products were produced from the key feedstock. Also, there were no significant wastes or by-products to account for. Considerably more time and effort would be needed for more complex operations with more steps or continuous operations with multiple feed or discharge systems at each step of the process.

It was found that to conduct a records audit an inspector needed an extensive background in chemical production of the chemicals in question. Frequently, judgements had to be made that required detailed knowledge of both the specific processes involved and of standard production practices. Therefore, examination of records should be done by an experienced chemical engineer with special training in auditing records of the chemicals in question.

With respect to the actual results from this NTI, the records audit indicated that the recorded production of DMMP was consistent with the recorded TMP available for use. There was no indication that TMP or DMMP had been diverted to undeclared products or otherwise unaccounted for. The recorded production and consumption were essentially the same as the declared production within the 1 per cent error limits allowed in measuring the weight of feedstock and products.

6. Sample analysis

The NTI demonstrated that sample taking, sample preparation and shipment and sample analysis require considerable planning and expertise to accomplish. The facility agreement should specify what samples will be taken and the precise sampling locations. The agreement must also provide for some optional or random sampling of the vessels interconnected with the declared reactors to ensure the inspection is not totally predictable and allows for some surprises. Planning for tamper-proof, safe packaging and shipment of samples to the Technical Secretariat's laboratory under both the State party and international laws must be standardized and well thought out to avoid problems.

Wipe samples and soil samples around the declared facility were found to be good "checks" to determine what other chemical constituents might be present. Wipe samples around pumps and on the adjacent walls and beams were taken to analyse for Schedule [1] or other Schedule [2] chemical components.

Samples from various points of the waste treatment system were also taken and analysed for indications of prohibited or undeclared chemicals.

Once the samples are obtained, a continuous chain of custody must be maintained until they are analysed. Tamper-indicating seals should be applied and the samples must be properly labelled. A log must be maintained to identify the samples' sources. A coded numbering system should also be utilized to protect the identity of the producer once the samples have left the site.

Discussions with representatives of both government and civil industry have led to the conclusion that samples should be analysed off-site in the Technical Secretariat's laboratory to obtain the most precise and quantitative results. This does not preclude the use of the inspected facility's analytical capability for establishing quick results, perhaps to aid in performing material balances. However, if the local lab is utilized, its capability must be verified with the use of certified standard chemicals which should be brought by the inspection team. Based on the initial visit and the facility agreement, such limited analysis could be planned. To verify this capability, an experienced analytical chemist would be required as part of the inspection team.

7. The inspection team

The trial inspection demonstrated the need for extensive expertise and training in chemical engineering (with background in processing, records audit and chemistry of the declared chemicals), chemical production, and analytical chemistry. The minimum number of inspectors is six based on the team working in three pairs on equipment, records and samples. These inspectors would be provided with interpreters, and where necessary, assistants. The number could be increased depending on the size and complexity of the facility to be inspected. The team size should be based on three to five days at the site for the routine inspection. (If interpreters are needed, substantially more time may be necessary.) Three days should be the minimum duration of the initial visit, which is of greatest importance for establishing an inspection plan and the facility agreement.

Ideally, the same team that negotiates the facility agreement should conduct the routine inspection. However, the inspectors will gain considerable expertise and background with each inspection.

Consideration should be given to establishing an inspector training programme during the period prior to entry into force of the convention.

8. Confidentiality

Protection of confidential business information must be guaranteed to the maximum extent possible consistent with verification requirements. Substantial amounts of proprietary information would have to be disclosed to inspectors during an inspection. A system of classification of confidential information must be established and the use of this information must be restricted within the Technical Secretariat organizations on a strict need to know basis. Methods to protect against unauthorized disclosure and to assess responsibility in the event such disclosure occur must be developed. Penalties and liabilities for financial damages in the event of unauthorized disclosure will be required for implementation of the Convention.

9. Areas requiring further work

This first trial inspection has made clear the need to conduct additional national trial inspections in the chemical industry since this is a learning process and many refinements must be made in the procedures. Among the areas requiring further work are the following:

- testing at another Schedule [2] facility of inspection procedures that have been revised and improved based on the findings of this and other States' NTIs;
- testing of the refined procedures on more complex processes;
- efforts to gain insight into the task of monitoring a Schedule [2] facility that produces a chemical that is a mustard gas precursor or a VX precursor.
- testing of procedures that were omitted during the first NTI (for example, notification and escort procedures).

A longer-range goal is the development of continuous on-site instrumental monitoring equipment to supplement routine inspections.

Routine inspections will require extensive access to and use of confidential business information. Methods to reduce the need for proprietary information should be investigated. Regardless, it is necessary to develop reliable means to protect CBI.

A training programme will be required for inspectors to ensure that all inspections are performed by competent specialists in a uniform manner.

10. Cost of the inspection

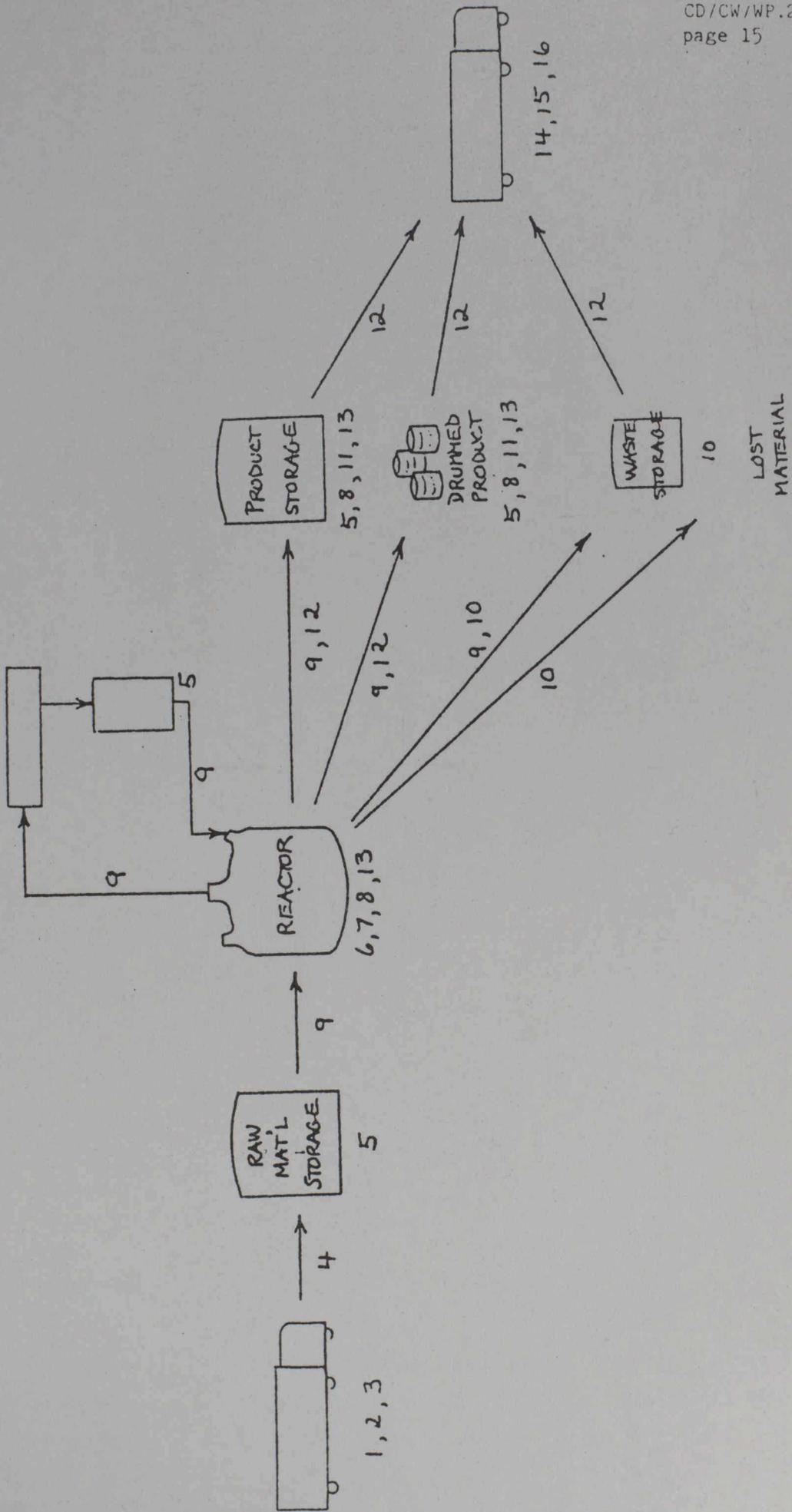
The total cost of this trial inspection was estimated to be \$100,000. This included considerable planning, starting over one year ago, with the chemical industry. The cost to AKZO Chemicals, Incorporated from November 1988 through February 1989 was estimated to be \$10,000. The inspection had little impact on AKZO's operations. Their facility managers' time was the main effort in planning and implementing the trial inspection. Use of their analytical capability during the inspection also contributed to the cost and effort at AKZO.

Attachment 1

TYPES OF DOCUMENTATION FOR RECORDS AUDIT

1. Raw material supplier data
2. Raw materials summary sheet
3. Inventory ledger (incoming)
4. Consolidated raw material storage tanks report
5. Raw material and finished product storage sheet
6. Reactor daily log sheet
7. Supervisor's shift log sheet
8. Supervisor's daily summary log sheet
9. Transfer (vessel to vessel or drums) sheet
10. Loss report
11. Product inventory summary sheet
12. Consolidated loading (outgoing) report
13. Quality control (product) sheet
14. Bill of lading (outgoing)
15. Shipment summary
16. Waste manifest (outgoing)

DOCUMENTATION PERTINANT TO VESSELS
AND ACTIVITIES *



* NUMBERS REFER TO DESCRIPTIONS ON PREVIOUS PAGES



NETHERLANDS

REPORT ON A NATIONAL TRIAL INSPECTION

INTRODUCTION

1. During the winter and spring of 1985/1986 an experimental inspection was carried out in the Netherlands. CD delegations were informed of the results of this trial inspection during a workshop that was held in June 1986. The main results of the workshop and trial inspection were published as documents of the Conference on Disarmament (CD/706, CD/CW/WP.141, 142, 143 and 144).

A second trial inspection was carried out during the first half of 1989 on the basis of working paper CD/CW/WP.213. The results of this trial inspection are incorporated in this paper and in paper CD/925 (CD/CW/WP.252)

During the preparations of our trial inspection we were able to make use of the reports on other trial inspections that were published before and during the spring session of the CD. By studying these reports we came to the following preliminary conclusions:

- The definition of the word "facility" varies considerably:
 - e.g. - one reactor with associated equipment;
 - all reactors within one building;
 - a chemical complex in its totality.
- As the scope of routine verification of non-production is dependent on the definition of a "facility" no agreement seems to exist on the exact aim of routine verification measures under annex VI [2].
- As the character of inspection and the effort needed for inspection are dependent on the scope of the inspection it seems important to agree on the precise aim of inspection and thus on the exact definition of "facility".

2. Different aims of inspections and article VI [2]

It can be argued that the desirable scope of inspection is dependent on the objective of the inspection. This would explain why such widely diverging definitions of "facility" have been used in the national trial inspections, since the aim of the verification measures referred to in the annex to article VI [2] (p. 75 of CD/881) could be

interpreted as encompassing two distinct objectives:

1. to verify that the **equipment** is not misused (4 (i));
2. to verify that the **chemicals** are not misused (4 (ii and iii)).

3. **Scope of verification of non-misuse of chemicals**

To verify that the quantities of a chemical listed in Schedule [2] that are produced, processed or consumed are consistent with needs for non-prohibited purposes (CD/881, p. 75, para 4 (ii)), an inspection can be limited to equipment in which the chemical is actually produced, processed or stored, etc. If in this way a material balance is verified, it is also automatically verified that the chemical, at least within this facility, is not diverted or used for purposes prohibited by the Convention (4 (iii)).

The scope of verification of the non-misuse of chemicals listed in Schedule [2] could, therefore, in the Netherlands' view, be limited to inspection of the equipment in which the declared chemical is produced, processed, consumed, stored etc. A very limited definition of facility would be most efficient, e.g. one reactor vessel with supportive equipment.

4. **Scope of verification of non-misuse of equipment**

To verify that a chemical plant is not used to produce any chemical listed in Schedule [1], an inspection team will have to check all relevant parts of a plant. It would be quite ineffective if the inspection team were to limit itself to equipment that had been declared as being used to produce, process or consume Schedule [2] chemicals and overlook equipment within a plant that is just as capable to produce Schedule [2] chemicals and possibly even more capable to produce Schedule [1] chemicals.

For the purpose of verifying the non-production of Schedule [1] chemicals (and preferably also other scheduled chemicals), the scope of the inspection should encompass as many relevant parts of equipment as is feasible. In this case a wide definition of "facility" would therefore be most appropriate e.g. the whole production complex or, if that is unmanageably large, a substantial part of it. In order to avoid any misunderstanding, however, we propose that the word "facility" in the context of routine inspection under article VI [2] and [3] be used only to apply to a single production unit, i.e. the reactor in which the conversion into or from a scheduled chemical takes place plus associated equipment. A chemical plant could, but would not necessarily have to, consist of several facilities.

5. **Two scopes of inspection**

Desiring to address both objectives of routine inspection as mentioned above, we decided to divide our trial inspection in two parts:

- a trial routine inspection with a limited scope, to verify the declared processing of

- a Schedule [2] chemical in a small part of the chemical complex (on the basis of a facility attachment);
- a trial (ad hoc) inspection with a wide scope, to verify non-production of Schedule [1] chemicals (and preferably also other scheduled chemicals) in the whole chemical complex (unprepared).

This paper contains a report on the first part of our trial inspection. The second part is contained in CD/925 (CD/CW/WP.252)

A. GENERAL APPROACH

A 1. Objectives

To verify that:

- the *declared* quantities of TMPB (triphenylmethylphosphonium bromide, a chemical contained in category 1 of Schedule [2]) that are processed are consistent with *declared* needs for purposes not prohibited by the Chemical Weapons Convention;
- TMPB is not diverted or used for purposes prohibited by the Chemical Weapons Convention.

A 2. Provisions in the Draft Convention under which the trial inspections would take place

Annex to Article VI [2], para 4 (ii) and (iii):

- (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.
- (iii) The chemicals listed in Schedule [2] are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

A 3. Type of on-site inspection

An initial visit for familiarization purposes, to determinate the inspection plan and to collect information for the "facility attachment", followed by a routine on-site inspection.

A 4. Advance information

A 4a Declarations

- Initial declaration, relating to the specific facility to be inspected, in accordance with the relevant provisions in the Annex to Article VI [2].
- Annual advance notification (Annex to article VI [2], para 3 (a) (CD/881, p. 75)).
- Special advance notification (Annex to article VI [2], para 3 (b) (CD/881, p. 75)).

A 4b Agreement on inspection procedures

After an initial visit, a "facility attachment" based on the "Model for an agreement relating to facilities producing, processing, or consuming chemicals listed in Schedule [2]" (contained in CD/881, pp. 124-127) was negotiated.

A 5. Type of facility to be inspected

A multi-purpose production installation being part of a complex.

A 6. Type of declared activity at the facility

The production installation inspected is a typical multi-purpose reactor which is used (a few days each year) for a batch production process to transform a ketonic pharmaceutical intermediate into its corresponding methylide. During this process the Schedule [2] compound triphenylmethylphosphonium bromide (TMPB) (CAS no. 1770-49-3) is, in reaction with lithium amide (CAS no. 7782-89-0), consumed and partly transformed into triphenylphosphineoxyde (TPPO) (CAS no. 791-28-6), a chemical that is not on any of the Schedules, and diphenylmethyl phosphinoxide (DMPO) (CAS no. 2129-89-7), a chemical contained in category 1 of Schedule [2]. Waste products including all organophosphorus compounds are discharged after the reaction into the organic and aqueous wastes and eventually discharged to waste treatment facilities outside the complex.

Timing of the trial inspection

- During the declared production.

A 7. Actual activity at the facility

Activity as declared.

B. DETAILED APPROACH

B 1. The inspection mandate

A facility attachment was negotiated by the management of the company operating the facility and the inspection team. The facility attachment specified the areas to be inspected and the sample points and procedures.

B 2. Composition of the inspection team

The inspection team consisted of 7 persons:

- an official of the Ministry of Foreign Affairs responsible for CW negotiations;
- two members of the Netherlands CD delegation, including a chemical weapons specialist;
- three specialists from the Prins Maurits Laboratory TNO;
- a chemical process engineer.

B 3. Inspection equipment

For on-site analysis the following detection kits were used:

- a water-testing kit that can be used to detect categories 1-6 on Schedule [1] and chemicals 1 and 2 on Schedule [3]
- a gas reconnaissance kit that can be used to detect categories 1-6 on Schedule [1] and chemicals 1-3 on Schedule [3]

A detailed description of the detection limits of these kits is attached as annex 1.

The instruments used for off-site analysis are referred to in para 18.

B 4. Activities prior to the arrival of the inspection team on-site

By way of preparation for the inspection, a number of visits were made to the facility, including one Initial Visit. The preparations for the trial inspection including the visits mentioned were spread over a period of several months.

B 5. Advance preparations on-site

The management of the plant gave advanced warning to enable inspection to take place during the batch production in which a Schedule [2] compound was processed.

B 6. Escort and points of contact arrangements

During the trial inspections and preparations the inspection team was accompanied

by members of the management and staff of the company that operated the facility.

B 7. Other participants

An official of the Ministry of Foreign Affairs took part in the inspection as observer during the preparations for the inspection.

B 8. Duration of inspection and initial visit

- The inspection spanned a period of 13 hours, due to the fact that samples were taken both before and after a lengthy batch production.
- As has been stressed in other reports on national trial inspections, an Initial Visit will normally take longer than the inspection itself.

B 9. Measures to protect confidential information

It was agreed that the details of the facility attachment and inspection should be kept confidential. The results of the trial inspection are published in consultation with the management of the company concerned.

B 10. Opening conference

B 11. Types of records needed and/or audited

- A visual inspection confirmed that the amount of TMPB stated in the inventory corresponded with the amount present in storage.
- Availability of batch operating instructions and records at the reactor was found to be important.

B 12. Plant orientation tour

The plant orientation tour encompassed the entire complex.

B 13. Inspection of areas and facility equipment

The inspection team was split into two, to visit and inspect the following:

- storage facilities of the basic materials, especially TMPB
- administrative building (to check records)
- the reactor
- waste-water outlet of the building

B 14. Inspection of operation procedures

1. Due to the large excess of TMPB used in the process, it was not thought relevant to establish the ratio of the TMPB used to the quantity of the commercial end-product.

2. The most efficient method of verifying the conversion of TMPB seemed to be a validation of the reaction process during which TMPB was processed. Analysis and weighing of the feedstock chemicals TMPB and lithium amide and observation of their reaction would provide sufficient proof of change of the PCH_3 bond into a $(P=O)$ bond.

Analysis of the reaction mixture showed that not all TMPB was consumed during the reaction process and that part of it was transformed in an other Schedule [2] chemical (diphenylmethylphosphin oxide) (DMPO).

3. By inspecting the facility during a batch process it was possible to establish the relationship between the Schedule [2] feedstock chemical TMPB on the one hand and the chemicals TPPO, DMPO and the remaining, non-converted TMPB on the other hand. In this way it was verified that all TMPB was either transformed into a non-scheduled chemical or discharged into wastes in the form of TMPB or DMPO.

B 15. Sampling and sample-taking procedures

Samples

1. The starting material triphenylmethylphosphonium bromide (TMPB), to verify the declared identity.
2. The starting material lithium amide, to verify the declared identity.
3. The reactive mixture after the reaction had taken place, to verify the transformation of triphenylmethylphosphonium bromide.
4. The air in the building where the production vessel was located.

N.B. Mention should also be made here of the waste-water samples that were taken.

Sample-taking procedures

Samples nos. 1-3 were taken by the facility personnel in the presence of the inspection team. Sample no. 4 was taken by the inspection team.

B 16. Handling of samples

B 17. Analysis of samples

As the necessary equipment and methods for analysis were not all available on-site, analysis of samples 1-3 took place off-site. Analysis of the air took place on-site.

B 18. Type(s) of analysis

The samples of the feedstock chemicals TMPB and lithium amide were analysed

by mass spectrometry (MS) and X-ray diffraction respectively.

The samples of the reaction mixture after the completion of the reaction was analysed using:

- gas chromatography (GC)
- GC-MS (gas chromatography combined with mass spectrometry)
- elemental analysis (P)

B 19. Documentation of the inspection

Maps of the building in which the reactor-vessel was located and of the entire industrial complex were handed to the inspection team during the initial visit.

These documents were not classified. A piping and instrumentation diagram (PID) was not available.

B 20. Evaluation by inspectors

B 21. Closing conference

B 22. Anomalies, disputes and complications

B 23. Report of the inspection team

As the results of the off-site analysis were only available one week after the inspection, the inspection team was unable to prepare its report on-site.

B 24. Impact of the inspection on facility operations

- To facilitate the presence of the inspection team at the start of the batch process the production schedule was postponed for about an hour without any production loss.
- Members of the management and staff of the plant spent a considerable amount of time assisting in the trial inspection and its preparations.

B 25. Other matters

All records and instructions at the plant were in Dutch.

C. SPECIFIC ELEMENTS FOR CONSIDERATION

(NB: The numbering of CD/CW/WP.213 has not been followed in this part of the report.)

C 1. The inspection mandate

The chemical process that was validated during the trial inspection could take place in most of the 100-plus reactor vessels at the production complex. In order to prevent the ammonia released during the specific reaction process from being discharged into the air, however, the management would in practice only use one of a small number of reactors that are equipped with an ammonia scrubber. Which of those reactors is actually used is decided only a few weeks before the production process takes place, on the basis of expected demand for the final product.

(N.B. It should be noted that the other reactors in the building where the reactors fitted with ammonia scrubbers are placed could easily (within a few hours) be connected with these scrubbers.)

During the inspection it became clear that for the purpose of validating the declared processing of a Schedule [2] chemical, an inspection mandate that is limited to one specific process unit, including feedstock lines, waste lines and storage facilities is sufficient.

However, an unannounced routine inspection could easily occur at a time when the specific process unit is not being used for processing the declared Schedule [2] compound. In such a case an inspection would of necessity have to be limited to

- a check of the records;
- a check of the amount of Schedule [2] chemical in storage;
- a check to establish that the process unit is indeed not used for processing the Schedule [2] compound.

C 2. Composition of the inspection team

- If the inspection is limited to one reaction vessel, as in the trial inspection, the participation of a process engineer is not absolutely essential.
- For a thorough check of the records the assistance of an inspector with experience of accounting procedures would appear necessary.
- An inspection team should preferably carry its own inspection equipment and have the necessary know-how to use it.

C 3. Declaration and notification under article VI, annex 2

According to the annex to article VI [2] certain information should be given on each facility that produced, processed or consumed, or will produce, process or consume more than (...) of a Schedule [2] chemical. The experience obtained during our national trial inspection has led us to the conclusion that a few amendments to the current text (p. 73-75 of CD/881) should be considered and that possibly even a thorough review of the concept of routine verification of non-production under article VI is called for (see para C4).

C 3.1 Definition of "facility"

A comparison of the results of national trial inspections proves that there is no agreed definition of the word "facility". A clear definition is essential for determining the scope of inspections (see para 4).

C 3.2 Capability to produce Schedule [1] or other Schedule [2] chemicals

According to the current rolling text (p. 74 of CD/881) information has to be provided as to:

"(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."

In our view, this question is too loosely worded to elicit meaningful answers. Consideration should be given to making the question more specific (see para 4).

C 3.3 Special advance notification

According to p. 75, para 3 (b) of the rolling text (CD/881) notification "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" shall "include the information specified under paragraph 3 (a)". As such a "special advance notification" will usually concern production in the same year, the words "coming calendar year" should be deleted in the formulation taken over from para 3 (a). The words "above thresholds" should be inserted at the appropriate place.

C 3.4 Preventing unnecessary bureaucracy

According to the rolling text (p. 75 of CD/881), annual and special advance notifications should include more or less the same information as the initial declaration. Consideration should be given to limiting the amount of information required in these advance notifications to the following:

- reference to the initial declaration
- new information

C 4. Optimizing the scope of routine verification

C 4.1 Weakness of the current regime

The principle underlying verification of non-production in the chemical industry is that facilities that are considered most relevant have to be declared and will be inspected (Schedule [2]) or at least monitored (Schedule [3]).

This principle raises two basic questions:

- How should we deal with non-production in non-declared facilities?
- How can we assure that the scope of routine verification of declared facilities is most effective i.e. to encompass those facilities that, from an objective point of view, are most relevant?

The first question is left aside in this paper. (It has been tackled by the United Kingdom in its proposal on ad hoc inspections (CD/909). To answer the second question, a distinction should be made between chemicals and equipment.

As far as relevant chemicals are concerned it seems that the envisaged Schedules [2], [2b] and [3] come close to directing inspection efforts efficiently at monitoring the most relevant chemicals.

It is, however, very questionable whether a verification regime that is based on monitoring the most relevant chemicals will automatically also cover the most relevant production installations. In the Netherlands' view this is not necessarily the case. Two hypothetical examples might illustrate this:

1. A production installation that processes a non-toxic Schedule [2] compound would fall under the on-site inspection regime, even though the characteristics of the installation (containment, safety measures etc.) are such that the installation is clearly not capable to produce chemical warfare agents.
2. A large scale high containment production installation with extensive safety features that does not produce, process or use a scheduled chemical would not have to be declared under the currently envisaged regime, even though such a plant might be able to produce chemical warfare agents.

Another problem with regard to the scope of routine on-site verification has been touched upon in the introduction of the present paper: should verification be limited to the declared facility (i.e. a single production unit plus associated equipment) or should it encompass the whole production complex?

C 4.2 Possible solutions

It could be considered to find a solution to the problems described above along the following lines. (N.B.: the following suggestions owe much to the important concept of ad hoc checks as introduced by the Federal Republic of Germany in CD/869)

1. The scope of the annex to article VI [2] is widened to encompass production installations that are particularly suitable for the production of highly toxic and volatile chemicals such as the chemicals 1-6 in Schedule [1] and chemicals 1-3 on Schedule [3]. This would enlarge the scope of routine inspections, but far less than the envisaged scope of ad hoc checks.

Observations:

- A useful basis for discussion of the details of a definition of equipment that would have to be declared can be found in list B of the Australian working paper CD/698. Some criteria are also given in para C 4 of CD/925 (CD/CW/WP.252)
 - In order to cover the grey zone between "particular suitable" equipment and "non-suitable" equipment, it could be considered to widen the scope of the annex to article VI [3] to production installations that are suitable to a certain extent (but not to the same extent as those under annex [2]).
 - An obligation to declare relevant production installations would greatly facilitate challenge (or ad hoc) inspection of suspected non-declared facilities. Even when it would be possible to remove all remnants of chemicals that had to be declared in the time between notification of the inspection and the arrival of the inspection team, it is very unlikely that all equipment that had to be declared could be removed so fast.
2. The scope of on-site inspection of facilities declared under Schedule [2] would, as described in the introduction of this paper, be split into:
 - a. a quantitative check of facilities that are declared for production, processing or use of Schedule [2] chemicals;
 - b. a qualitative check of the whole plant or the chemical complex of which a declared facility forms part of (see also CD/925 (CD/CW/WP.252), para C 7 and 8).

C 5. Analysis of samples

Where possible, samples should be analysed on-site, using standard operational procedures. The following should, however, be taken into consideration:

C 5.1 The sample

The following types of sample can be distinguished:

1. raw materials
2. end products
3. intermediate products
4. reactive mixtures
5. waste material.

In the case of raw materials and end products and usually also in the case of intermediate products, we are dealing with pure chemicals which can usually be analysed quickly in accordance with standardised methods. We have to assume that any impurities present do not adversely affect the chosen method of analysis.

In the case of reactive mixtures and waste material, we are dealing with mixtures which often require preparatory treatment prior to analysis. The types of pretreatment include chemical derivation reactions and separation techniques. In the case of waste material the concentrations may be very low, a fact which can add to the difficulty of analysing the material. In such cases it is not possible to employ universally applicable, standardised methods of analysis, since the sample matrix differs according to the production process.

C 5.2 Analysis

The choice of analytical method is determined by the type of sample (see above), as well as by the purpose of verification. The purpose of verification can be either of the following:

- a. to confirm the presence of a declared product or precursor (Schedule [2]); or
- b. to detect non-declared scheduled chemicals.

In the case of a, samples of raw materials and end or intermediate products should display the same chemical analytical properties as those of declared standard/reference substances, which can usually be determined directly and quickly using standardised methods.

In the case of b, the method of analysis will be more comprehensive and complicated (at least with reactive mixtures and waste material), since detection and identification relate to the possible presence of a component from a large group of substances in Schedules [1], [2] and [3]; indeed, in these cases it may prove impossible to use standardised methods without adapting them appropriately

C 5.3 Duration of the analysis

In general, preference will be given to an inspection period of one day, which will also mean that on-site analysis should, preferably, be performed within the same period. This will generally be feasible for samples of raw materials and end or intermediate products, but may be difficult to achieve for samples of reactive mixtures and waste materials.

C 5.4 Validation of method of analysis

During an on-site analysis, the inspectors should satisfy themselves that the method of analysis has been validated and/or that the analytical equipment has been calibrated using standard substances. If necessary, they should provide their own standard substances. Validation of this sort takes time, and the necessary equipment needs to be installed and/or adjusted. A similar approach may be required for the calibration/installation of equipment which the inspectors provide themselves.

C 5.5 Conclusion

It will be apparent from the above that the analyses may be complex, and that the various parameters (samples, compounds, analysis equipment and verification aims) may be closely interdependent, with the result that the laboratory performing the analysis may require extensive analytical equipment as well as personnel with considerable experience in the field. For these reasons, a number of practical problems may be expected when analysing mixtures of substances on-site using standardised methods which have been prescribed, if at all available, by the Inspectorate.

C 6. The need to specify category 1 of Schedule [2]

The facility that was the subject of our national trial inspection was chosen because it is used to process triphenylmethylphosphonium bromide (TMPB), a compound that falls under category 1 of Schedule [2]. On careful consideration, we have come to the conclusion that TMPB is a very unlikely precursor of Schedule [1] compounds.

For the purpose of a national trial inspection this conclusion had no immediate relevance, but under a CW Convention an attempt to verify the use of TMPB would be a most ineffective investment of the Inspectorate's time and money. We therefore suggest that TMPB be excluded from Schedule [2]. The same applies to diphenylmethylphosphineoxide.

This could be accomplished by limiting the definition of category 1 of Schedule

[2] chemicals to chemicals containing one P-methyl, P-ethyl or P-propyl (normal or iso) bond and no other phosphorus-carbon bonds.

C. 2.4 Validation of method of analysis

During an on-site analysis, the inspector should satisfy themselves that the method of analysis has been validated and/or that the analytical equipment has been calibrated using suitable reference materials. It is necessary to ensure that the equipment used is suitable for the analysis of the sample type and the necessary calibration records are maintained. A suitable record may be required for the calibration/maintenance of equipment which the inspector provides. The calibration records should be maintained in a suitable manner to ensure that the equipment is used within the specified limits and that the calibration records are available for inspection.

C. 2.5 Equipment

It will be necessary to ensure that the analytical equipment used is suitable for the analysis of the sample type and that the equipment is maintained in a suitable manner. The inspector should ensure that the equipment is used within the specified limits and that the calibration records are available for inspection. The inspector should also ensure that the equipment is used in a suitable manner and that the calibration records are available for inspection. The inspector should also ensure that the equipment is used in a suitable manner and that the calibration records are available for inspection.

C. 2.6 The role of the inspector

The role of the inspector is to ensure that the analysis is carried out in a suitable manner and that the results are reliable. The inspector should ensure that the equipment is used within the specified limits and that the calibration records are available for inspection. The inspector should also ensure that the equipment is used in a suitable manner and that the calibration records are available for inspection. The inspector should also ensure that the equipment is used in a suitable manner and that the calibration records are available for inspection.

ANNEX 1: description of inspection equipment

Gas Reconnaissance Kit

This kit was developed to determine whether or not the surrounding atmosphere or surface contain chemical warfare agents in gas, aerosol or liquid form above the treshold level. By carrying out a number of consecutive simple wet chemical colour tests, conclusions about the atmosphere can be reached within 15 minutes.

The following gas concentrations (in mg/m³) can be detected:

Sarin	0.02	Lewisite	3.5
Soman	0.01	HCN	5
Tabun	0.02	CICN	1
VX	0.01	Phosgene	5
Mustards HD	0.27		

Water-Testing Kit, Chemical Agents

This kit was developed to determine whether or not the water is fit for human consumption. By performing a number of consecutive simple tests, conclusions can be reached within 20 minutes.

The following concentrations (in mg/l) can be detected:

Sarin	0.02	Arsenics	1-2
Soman	0.02	CN	8
Tabun	0.04	CICN	5
VX	0.02	Cl ₂	5
Mustards	HD 4 HN-3 2	pH	6.5-9.0

NETHERLANDS

AN ATTEMPT TO VERIFY NON-PRODUCTION IN A CHEMICAL PLANT

INTRODUCTION

As explained in CD/924 (CD/CW/WP.251) we decided that, for the purpose of our trial inspection, it would be useful to make a clear distinction between the verification of non-misuse of a declared chemical (CD/881, annex [2] of article VI, p. 75 4 (ii) and (iii)) and the verification of non-production of Schedule [1] compounds (p. 75 4 (i)). The first part of our trial inspection was reported in CD/924 (CD/CW/WP.251). The present paper contains the report on the second part of our trial inspection.

Important differences between the two parts of our trial inspection are the following:

	<u>CD/924</u>	<u>CD/925</u>
purpose:	verification of non-misuse of a scheduled chemical	verification of non-misuse of relevant equipment
scope:	one unit	the whole complex
character:	quantitative	qualitative
preparation:	facility attachment	unprepared

In preparing the part of our trial inspection that is described in this paper, we were greatly helped by the concept of ad hoc checks as proposed by the Federal Republic of Germany in CD/791 and CD/869.

It should be stressed that in our trial inspection we did not simulate an unannounced inspection in all aspects, but rather limited ourselves to certain aspects only.

A. GENERAL APPROACH

A 1. Objectives of the NTI

Test of aspects of an unannounced inspection of a medium-sized multi-purpose production complex to verify non-production of scheduled chemicals.

A 2. Provisions in the Draft Convention under which the NTI took place

The trial inspection was based on the first of the three objectives of routine inspection under annex [2] to article VI.

"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]"

N.B.: In view of the considerations mentioned in para C 7 of this paper we were also interested in the possibility of verifying non-production of other scheduled chemicals.

A 3. Type of on-site inspection

As no facility attachment was worked out, the character of the trial inspection was ad hoc.

A 4. Advance information

No advance information.

A 5. Type of "facility" inspected

The site(*) that was inspected is a medium-sized production complex comprising more than 100 multi-purpose reactor vessels with volumes varying from 30 litres to 5000 litres. Intermediates for pharmaceutical products are produced at the site.

(*) We would suggest limiting the definition of "facility" to a single production unit.

B. DETAILED APPROACH

B 1. The inspection mandate

The inspection team was given full access to the complex.

B 2. Composition of the inspection team

The inspection team consisted of 7 persons:

- an official of the Ministry of Foreign Affairs responsible for CW negotiations;
- two members of the Netherlands CD delegation, including a chemical weapons specialist;
- three specialists from the Prins Maurits Laboratory TNO;
- a chemical process engineer.

B 3. Inspection equipment

The following instruments were used for on-site analysis:

- a water-testing kit that can be used to detect categories 1-6 in Schedule [1] and chemicals 1 and 2 in Schedule [3];
- a gas reconnaissance kit that can be used to detect categories 1-6 in Schedule [1] and chemicals 1-3 in Schedule [3].

A description of the detection limits of these kits is attached as annex 1 to CD/924 (CD/CW/WP.251).

The instruments used for off-site analysis are referred to in para 18.

B 4. Activities prior to the arrival of the inspection team on-site

A routine inspection of one of the production units of the complex had taken place (CD/924, CD/CW/WP.251).

B 5. Advance preparations on-site

B 6. Escort and points of contact arrangement

During the trial inspection and the preparations the inspection team was accompanied by members of the management and staff of the company operating the facility.

B 7. Other participants

B 8. Duration of inspection and initial visit respectively

The inspection took about 3 hours.

B 9. Measures to protect confidential information

B 10. Opening conference

- a. The management was informed of the purpose of the inspection
- b. The inspection team was informed in some detail about:
 - the general outline of the site on the basis of a map
 - special safety regulations
 - the use of scheduled chemicals below notification limits
 - available hydrogen fluoride-resistant equipment
 - available glass and enamel-lined equipment (e.g. for chlorinating chemicals)
 - available equipment for processing and handling toxic compounds with an appreciable vapour pressure

B 11. Types of record needed and/or audited

B 12. Plant orientation tour

B 13. Inspection of areas and facility equipment

On the basis of the information received, the inspection team decided to inspect the following:

- a. a gas-tight reactor in a separate part of the complex
- b. a reactor that was used to process triethyl phosphite (a Schedule [3] compound)
- c. reactors that could easily be connected with the reactor used for processing a Schedule [2] compound
- d. a building with several 4000 liter reactors resistant to chlorinating agents
- e. the only (200 litres) hydrogen fluoride-resistant reactor in the complex
- f. the only building in the facility with permanent and stringent requirements for personal protection against toxic chemicals
- g. waste-water outlet from one of the production buildings
- h. waste-water outlet from the complex as a whole
- i. storage of organic waste
- j. drum storage area

B 14. Inspection of operation procedures

B 15. Sampling and sample-taking procedures

Air samples were taken at the points of inspection a, c, d, e and i (see para B 13).
Waste-water samples were taken at inspection points g and h.

B 16. Handling of samples

B 17. Analysis of samples

The air samples were analysed on-site to detect possible traces of compounds 1-6 in Schedule [1] and 1-3 in Schedule [3].

The waste-water samples were analysed off-site to detect possible traces of compounds 1-6 in Schedule [1], compounds 1 and 2 in Schedule [3] and of other Schedule [1] related PCH₃ compounds.

All analyses proved negative, with the exception of two cases (d and e) where complications were encountered (see para B 22).

B 18. Type(s) of analysis

Micro-liquid chromatography in combination with flame photometric detection and liquid chromatography (LC) in combination with mass spectrometry (MS) to analyse samples g and h.

B 19. Documentation of the inspection

B 20. Evaluation by inspectors

B 21. Closing conference

B 22. Anomalies, disputes and complications

In two cases the gas reconnaissance kit gave dubious results due to interference by the environment in the reaction vessel:

- large amounts of acetic acid interfered with the detection of nerve agents;
- acetonitrile interfered with the detection of cyanogen chloride.

B 23. Report of the inspection team

As the results of the off-site analysis were only available several days after the inspection, the inspection team was unable to prepare its report on-site.

B 24. Impact of the inspection on facility operations

B 25. Other matters

C. SPECIFIC ELEMENTS FOR CONSIDERATION

(N.B.: The numbering of CD/CW/WP.213 has not been followed in this part of the report.)

C 1. The inspection mandate

The mandate of the inspection team should be wide and should, in principle, only be limited by the following:

- what is necessary for the purpose of the inspection;
- the geographical limits of the plant;
- safety regulations.

C 2. Composition of the inspection team

- Participation of a process engineer is absolutely essential.
- As the records of the plant were not inspected, the participation of an inspector with experience in the field of accounting was not necessary. It seems however useful to make inspection of records part of unannounced verification of non-production.

C 3. Opening conference

It is desirable that the management of a plant being inspected is able to give all necessary details about the plant during the opening conference. As an inspection will be announced only shortly before it takes place, it can be expected that the management will not be able to make all requested details available immediately. To facilitate inspection it is desirable that all chemical plants that could be subject to inspection should have relevant information readily available. State parties should be obliged to inform their respective chemical industries accordingly. In order to work as effectively as possible it might sometimes be advisable not to postpone the actual inspection until all relevant information is available.

C 4. Inspection of areas and facility equipment

Reactors should be inspected on the basis of the following criteria:

- resistance to chlorinating agents
- hydrogen fluoride-resistance
- double containment

- gas-tight equipment e.g.
 - * double seals on rotating equipment
 - * magnetic coupled or canned pumps
- special handling equipment for liquid products (e.g. automatic filling of special containers)

Buildings should be inspected on the basis of the following criteria:

- special medical safety measures
- operators wearing personal protective equipment
- availability of "double containment" e.g.:
 - * special waste treatment
 - * special air treatment
 - * special emergency measures

C 5. Analysis of samples

- It is desirable that detection kits be developed for the purpose of verifying the non-presence of compounds in Schedule [1] and compounds 1-3 in Schedule [3].
- Development of portable equipment to detect compounds in Schedule [2] and precursors in Schedule [3] would also be desirable, but it is uncertain whether this is feasible.

C 6. Report of the inspection team

On the basis of the visual inspection and the samples taken it was possible for the inspection team to state that no indications were found that chemical warfare agents (Schedule [1] 1-6 and Schedule [3] 1-3) were produced, processed or used at the industrial complex in question.

C 7. Objective and scope of verification of non-production

According to annex [2] to article VI the aim of verification measures is to verify that facilities that are declared to produce, use or process Schedule [2] chemicals are not used to produce any chemical listed in Schedule [1]. If, as we would like to suggest, the scope of verification of non-production is widened to comprise not only the production unit that has been declared for production, use or processing of Schedule [2] chemicals, but also other units within the complex, it would be logical to verify that in these latter units indeed no Schedule [2] chemical are produced. The same reasoning would apply to the production of Schedule [3] chemicals.

We do acknowledge that the feasibility of unprepared verification of

non-production of chemicals in Schedule [2] and [3] is a point for further discussion (e.g. because of possible presence of quantities below the thresholds of declaration, and because the required inspection equipment is not yet readily available).

We believe, however, that the logical structure of article VI requires that verification of non-production is not limited to compounds in Schedule [1].

C 8. Feasibility of verification of non-production

In the case of a multi-purpose plant comprising many production units, widening the scope of verification of non-production from a narrow concentration on one production unit to inspection of a whole plant represents a considerable change of the character of the inspection.

At first sight, the large increase in the number of production units to be inspected might appear to create unsurmountable difficulties. We believe, however, that a solution for these problems, although not readily at hand, is within reach, certainly as far as non-production of chemical warfare agents is concerned.

C 8.1 Verifying non-production by inspecting the production equipment

In a very large number of cases non-production of certain scheduled chemicals could be verified by inspecting the equipment of the plant on the basis of criteria such as mentioned in para C 4.

It is relatively easy to verify the non-production of the supertoxic lethal chemicals in Schedule [1]. The combination of the volatility and high toxicity of these chemicals requires such high standards of safety and gas-tightness, that a visual inspection of the equipment will in the great majority of cases be enough to decide that production of these chemicals cannot take place in any substantial quantities. This is also the case for the potential warfare agents in Schedule [3].

The same seems also to hold for DF (no 8 in Schedule [1]) as only few plants seem to comprise large scale hydrogen-fluoride resistant production vessels.

As verification by inspecting the characteristics of the equipment would be less intrusive than analysis of samples, it would seem useful to consider into more detail the criteria that could help to decide that production installations are not capable to produce certain scheduled chemicals.

C 8.2 Verifying non-production by analysis of samples

In case a plant does comprise reactors and buildings that are relevant according to criteria such as enumerated in para C 4, it will be necessary to take and analyse samples. The same holds for verification of non-production of BZ and QL (both also in Schedule [1]) since these chemicals can be produced in reactortypes that are

widespread in civil industry.

This is also the case for most chemicals in Schedule [2] and [3], with the exception of the dual purpose chemicals in Schedule [3]. The feasibility of the presence (c.q. non-presence) of these chemicals in samples would be greatly enhanced if special (portable) verification equipment became available for this purpose.

C 9. General conclusions

1. The result of the trial inspection described above indicates that in principle during an unannounced inspection the non-production of chemical warfare agents in a medium-sized multi-purpose production complex (more than 100 reactors) can be verified within a reasonably short time and at relatively low costs.
 2. On site, short term verification of non-production of the compounds 7 and 9 in Schedule [1] is not feasible with the available technology.
 3. The same applies to the compounds in Schedule [2] and, with the exception of the dual-purpose chemicals 1-3, the compounds in Schedule [3].
 4. Full cooperation of the management is essential for a quick and effective implementation of an unannounced inspection.
-



CONFERENCE ON DISARMAMENT

CD/926
22 June 1989

ENGLISH
Original: ENGLISH/FRENCH
(Extract)

LETTER DATED 20 JUNE 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT BY THE REPRESENTATIVE OF THE NETHERLANDS, FORWARDING DOCUMENTS ADOPTED AT THE MEETING OF THE NORTH ATLANTIC COUNCIL IN BRUSSELS ON 29 AND 30 MAY 1989

On behalf of those States that belong to the North Atlantic Alliance and are members of the Conference on Disarmament, I have the honour to forward to you the following documents:

- "Declaration of the Heads of State and Government participating in the meeting of the North Atlantic Council in Brussels on 29th - 30th May 1989".
- "A comprehensive concept of arms control and disarmament, adopted by Heads of State and Government at the meeting of the North Atlantic Council in Brussels on 29th and 30th May 1989".

The documents attached are in the official French and English versions. On behalf of the aforementioned States I hereby transmit the request to you to circulate this letter as an official document of the Conference on Disarmament with the two documents adopted by the North Atlantic Council in their original French and English versions attached to it.

(Signed): Robert J van Schaik
Ambassador
Permanent Representative
of the Netherlands

N A T O ————  ———— O T A N

SERVICE DE PRESSE

PRESS SERVICE

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PRESS COMMUNIQUE M-1(89)20

For immediate release
on 30th May 1989

A COMPREHENSIVE CONCEPT OF ARMS CONTROL AND DISARMAMENT

...

- 0 -

... 31. All member countries of the Alliance strongly favour a comprehensive, effectively verifiable, global ban on the development, production, stockpiling and use of chemical weapons. Chemical weapons represent a particular case, since the Alliance's overall strategy of war prevention, as noted earlier, depends on an appropriate mix of nuclear and conventional weapons. Pending the achievement of a global ban on chemical weapons, the Alliance recognises the need to implement passive defence measures. A retaliatory capability on a limited scale is retained in view of the Soviet Union's overwhelming chemical weapons capability.

...

Chemical Weapons

57. The Soviet Union's chemical weapons stockpile poses a massive threat. The Allies are committed to conclude, at the earliest date, a worldwide, comprehensive and effectively verifiable ban on all chemical weapons.

58. All Alliance states subscribe to the prohibitions contained in the Geneva Protocol for the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. The Paris Conference on the Prohibition of Chemical Weapons reaffirmed the importance of the commitments made under the Geneva Protocol and expressed the unanimous will of the international community to eliminate chemical weapons completely at an early date and thereby to prevent any recourse to their use.

59. The Allies wish to prohibit not only the use of these abhorrent weapons, but also their development, production, stockpiling and transfer, and to achieve the destruction of existing chemical weapons and production facilities in such a way as to ensure the undiminished security of all participants at each stage in the process. Those objectives are being pursued in the Geneva Conference on Disarmament. Pending agreement on a global ban, the Allies will enforce stringent controls on the export of commodities related to chemical weapons production. They will also attempt to stimulate more openness among states about chemical weapons capabilities in order to promote greater confidence in the effectiveness of a global ban.

...

V. CONCLUSIONS:

Arms Control and Defence Interrelationships

... 62. In each area of arms control, the Alliance seeks to enhance stability and security. The current negotiations concerning strategic nuclear systems, conventional forces and chemical weapons are, however, independent of one another: the outcome of any one of these negotiations is not contingent on progress in others. However, they can influence one another: criteria established and agreements achieved in one area of arms control may be relevant in other areas and hence facilitate overall progress. These could affect both arms control possibilities and the forces needed to fulfil Alliance strategy, as well as help to contribute generally to a more predictable military environment.

63. The Allies seek to manage the interaction among different arms control elements by ensuring that the development, pursuit and realisation of their arms control objectives in individual areas are fully consistent both with each other and with the Alliance's guiding principles for effective arms control. For example, the way in which START limits and sub-limits are applied in detail could affect the future flexibility of the sub-strategic nuclear forces of members of the integrated military structure. A CFE agreement would by itself

make a major contribution to stability. This would be significantly further enhanced by the achievement of a global chemical weapons ban. The development of Confidence- and Security-Building Measures could influence the stabilising measures being considered in connection with the Conventional Forces in Europe negotiations and vice versa. The removal of the imbalance in conventional forces would provide scope for further reductions in the sub-strategic nuclear forces of members of the integrated military structure, though it would not obviate the need for such forces. Similarly, this might make possible further arms control steps in the conventional field.

Original: ENGLISH
(Extract)

LETTER DATED 6 JULY 1989 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT BY THE REPRESENTATIVE OF THE FEDERAL REPUBLIC OF GERMANY TRANSMITTING THE TEXT OF THE JOINT STATEMENT OF 13 JUNE 1989 SIGNED IN BONN BY THE CHANCELLOR OF THE FEDERAL REPUBLIC OF GERMANY AND THE GENERAL SECRETARY OF THE CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF THE SOVIET UNION AND CHAIRMAN OF THE SUPREME SOVIET OF THE UNION OF SOVIET SOCIALIST REPUBLICS TOGETHER WITH THE TEXT OF THE JOINT DECLARATION ADOPTED ON 14 JUNE 1989 IN BONN BY THE MINISTER FOR FOREIGN AFFAIRS OF THE FEDERAL REPUBLIC OF GERMANY AND THE MINISTER FOR FOREIGN AFFAIRS OF THE UNION OF SOVIET SOCIALIST REPUBLICS

I have the honour to transmit to you herewith the text of the joint statement of 13 June 1989 signed in Bonn by the Chancellor of the Federal Republic of Germany, Helmut Kohl, and the General Secretary of the Central Committee of the Communist Party of the Soviet Union and Chairman of the Supreme Soviet of the Union of Soviet Socialist Republics, Mikhail Sergeyevich Gorbachev. In addition I include the text of the joint declaration adopted on 14 June 1989 in Bonn by Mr. Hans-Dietrich Genscher, Minister for Foreign Affairs of the Federal Republic of Germany, and Mr. Eduard Shevardnadze, Minister for Foreign Affairs of the Soviet Union.

I should be grateful if you would circulate both attached texts as an official document of the Conference on Disarmament.

(Signed): Dr. Paul Joachim von Stülpnagel
Ambassador

The Federal Republic of Germany and the Soviet Union advocate:

CD/930
Page 5

... - A world-wide, comprehensive and effectively verifiable ban on chemical weapons at the earliest possible date;

...

Joint declaration by the Ministers for Foreign Affairs of
the Federal Republic of Germany and of the Union of Soviet
Socialist Republics adopted at Bonn on 14 June 1989

The Federal Republic of Germany and the Soviet Union regard the early conclusion and entry into force of a convention on the global, comprehensive and effectively verifiable prohibition of chemical weapons as a priority goal of their arms control and disarmament efforts. They consider the Paris Conference on the Prohibition of Chemical Weapons to be a major step towards achieving that goal and underline the importance of the final declaration of that Conference.

Both sides agreed on the urgent necessity to translate the results of the Paris Conference into progress in the current negotiations of the Geneva Conference on Disarmament so that the convention on chemical weapons will be ready for signature at the earliest date. For their part, they express the intention to be among the original signatories of the convention.

The Federal Republic of Germany and the Soviet Union attach utmost importance to the establishment of strict international control that would ensure the highest degree of confidence among all participants that the convention's provisions are being complied with. The two sides declare their readiness to support any verification measure conducive to greater security. They are in favour of thoroughly elaborated procedures of systematic verification and the system of mandatory challenge inspections being included in the convention.

The two sides advocate a solution to the question of non-production of chemical weapons in industry that ensures a balance between the need for the most careful verification and the legitimate industrial and commercial interests of the participants in the convention. In this context, they welcome national and international test inspections for trying out verification procedures on the non-production of chemical weapons with a view to developing optimum verification procedures.

The Federal Republic of Germany and the Soviet Union attach special significance to confidence-building and regard practical measures in this field as an effective means of promoting the early conclusion of the convention. The two sides have agreed to step up efforts aimed at greater openness and further exchange of the data required for progress at the negotiations.

The Federal Republic of Germany and the Soviet Union have agreed to intensify bilateral discussions on all aspects of the prohibition of chemical weapons and for this purpose have agreed to hold their expert consultations at Geneva on a regular basis.

Both sides express their deep concern at the spread of chemical weapons. They agree that the entry into force of a global and comprehensive ban would be the only lasting solution to the problem of chemical weapons. Notwithstanding the

foregoing, they consider it an important task to take effective measures in the mean time to prevent the proliferation of chemical weapons. They concur that the continued spread of chemical weapons confronts the community of nations with grave responsibility that no Government can evade.

CONFERENCE ON DISARMAMENT

CD/931
12 July 1989

ENGLISH
Original: RUSSIAN
(Extract)

LETTER DATED 5 JULY 1989 FROM THE REPRESENTATIVE OF THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE JOINT STATEMENT SIGNED AT BONN ON 13 JUNE 1989 BY M.S. GORBACHEV, GENERAL SECRETARY OF THE CENTRAL COMMITTEE OF THE CPSU AND PRESIDENT OF THE USSR SUPREME SOVIET, AND H. KOHL, CHANCELLOR OF THE FEDERAL REPUBLIC OF GERMANY, AND THE TEXT OF THE JOINT DECLARATION BY THE MINISTERS FOR FOREIGN AFFAIRS OF THE USSR AND THE FEDERAL REPUBLIC OF GERMANY ADOPTED AT BONN ON 14 JUNE 1989

I have the honour to transmit herewith the text of the Joint Statement that was signed at Bonn on 13 June 1989 by M.S. Gorbachev, General Secretary of the Central Committee of the Communist Party of the Soviet Union and President of the USSR Supreme Soviet, and H. Kohl, Chancellor of the Federal Republic of Germany, and the text of the Joint Declaration by E.A. Shevardnadze, Minister for Foreign Affairs of the Soviet Union, and H.-D. Genscher, Minister for Foreign Affairs of the Federal Republic of Germany, that was adopted at Bonn on 14 June 1989.

I should be grateful if you would take the appropriate steps to have these texts circulated as official documents of the Conference on Disarmament.

(Signed)

S. Batsanov
Representative of the USSR to the
Conference on Disarmament

The Federal Republic of Germany and the Soviet Union advocate:

... - A world-wide, comprehensive and effectively verifiable ban on chemical weapons at the earliest possible date;

...

Joint declaration by the Ministers for Foreign Affairs of
the Federal Republic of Germany and of the Union of Soviet
Socialist Republics adopted at Bonn on 14 June 1989

The Federal Republic of Germany and the Soviet Union regard the early conclusion and entry into force of a convention on the global, comprehensive and effectively verifiable prohibition of chemical weapons as a priority goal of their arms control and disarmament efforts. They consider the Paris Conference on the Prohibition of Chemical Weapons to be a major step towards achieving that goal and underline the importance of the final declaration of that Conference.

Both sides agreed on the urgent necessity to translate the results of the Paris Conference into progress in the current negotiations of the Geneva Conference on Disarmament so that the convention on chemical weapons will be ready for signature at the earliest date. For their part, they express the intention to be among the original signatories of the convention.

The Federal Republic of Germany and the Soviet Union attach utmost importance to the establishment of strict international control that would ensure the highest degree of confidence among all participants that the convention's provisions are being complied with. The two sides declare their readiness to support any verification measure conducive to greater security. They are in favour of thoroughly elaborated procedures of systematic verification and the system of mandatory challenge inspections being included in the convention.

The two sides advocate a solution to the question of non-production of chemical weapons in industry that ensures a balance between the need for the most careful verification and the legitimate industrial and commercial interests of the participants in the convention. In this context, they welcome national and international test inspections for trying out verification procedures on the non-production of chemical weapons with a view to developing optimum verification procedures.

The Federal Republic of Germany and the Soviet Union attach special significance to confidence-building and regard practical measures in this field as an effective means of promoting the early conclusion of the convention. The two sides have agreed to step up efforts aimed at greater openness and further exchange of the data required for progress at the negotiations.

The Federal Republic of Germany and the Soviet Union have agreed to intensify bilateral discussions on all aspects of the prohibition of chemical weapons and for this purpose have agreed to hold their expert consultations at Geneva on a regular basis.

Both sides express their deep concern at the spread of chemical weapons. They agree that the entry into force of a global and comprehensive ban would be the only lasting solution to the problem of chemical weapons. Notwithstanding the

foregoing, they consider it an important task to take effective measures in the mean time to prevent the proliferation of chemical weapons. They concur that the continued spread of chemical weapons confronts the community of nations with grave responsibility that no Government can evade.

LETTER DATED 11 JULY 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE OF FINLAND TRANSMITTING A DOCUMENT ENTITLED "STANDARD OPERATING PROCEDURES FOR THE VERIFICATION OF CHEMICAL DISARMAMENT, D.2, SECOND PROPOSAL FOR PROCEDURES SUPPORTING THE REFERENCE DATABASE" 1/

I have the honour to enclose herewith the 14th volume of the research reports of the Finnish Project on the Verification of Chemical Disarmament entitled "Standard Operating Procedures for the Verification of Chemical Disarmament, D.2, Second Proposal for Procedures Supporting the Reference Database".

I would kindly request you to circulate this letter as an official document of the Conference on Disarmament with the research report attached to it.

(Signed):

Olli Mennander
Ambassador
Permanent Representative
of Finland

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 Finland at Geneva.

LETTER DATED 13 JULY 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT BY THE PERMANENT REPRESENTATIVE OF THE SOCIALIST REPUBLIC OF ROMANIA TRANSMITTING THE TEXT OF A COMMUNIQUE OF THE MEETING OF THE POLITICAL CONSULTATIVE COMMITTEE OF THE WARSAW TREATY STATES TOGETHER WITH THE TEXT OF A DOCUMENT ENTITLED "FOR A STABLE AND SECURE EUROPE FREE OF NUCLEAR AND CHEMICAL WEAPONS, FOR A SUBSTANTIAL REDUCTION OF ARMED FORCES, ARMAMENTS AND MILITARY SPENDING"

I have the honour to inform you that a meeting of the Political Consultative Committee of the States parties to the Warsaw Treaty of Friendship, Co-operation and Mutual Assistance was held at Bucharest on 7 and 8 July 1989.

A communiqué was adopted along with a document entitled "For a Stable and Secure Europe Free of Nuclear and Chemical Weapons, for a Substantial Reduction of Armed Forces, Armaments and Military Spending".

You will find annexed hereto the texts of those documents in Russian, English, French and Spanish.

As representative of the meeting's host country, I request you to arrange for their distribution as official documents of the Conference on Disarmament.

Gheorghe Dolgu

Ambassador
Permanent Representative of the
Socialist Republic of Romania
to the United Nations Office at Geneva

They reaffirm that they are ready to continue to seek, together with all interested countries, understandings leading to the staged reduction and subsequent complete elimination of nuclear weapons, the prohibition and destruction of chemical weapons, the radical reduction of conventional armed forces, the prevention of extension of the arms race to outer space, the gradual curtailment of military production, and the substantial reduction of military spending. In that connection, they proceed from the assumption that disarmament measures must ensure equal security for all States with full respect for the sovereignty, independence and territorial integrity of every State in its existing borders, and must exclude the possibility of the use of force or the threat of force in inter-State relations.

... The Meeting's participants are concerned by the danger to peace and international security represented by the threat of use of chemical weapons as long as they exist and are disseminated, and propose the adoption of a set of measures to remove that threat. They call for the speedy preparation of an international convention on the general and complete prohibition of chemical weapons and the destruction of their stockpiles.

NORWAY

VERIFICATION OF ALLEGED USE OF CHEMICAL WEAPONS

A NEW APPROACH FOR VERIFICATION PROCEDURES

1. Introduction

In 1981 the Norwegian Government started a research programme on verification of alleged use of chemical weapons. This programme is being carried out by the Division for Environmental Toxicology of the Norwegian Defence Research Establishment at Kjeller, near Oslo. The research findings have been presented to the Conference on Disarmament in annual reports and working papers, which have been compiled in the publication Contributions by Norway to the Conference on Disarmament 1982-1987, published by the Royal Norwegian Ministry of Foreign Affairs in March 1988 (document CD/813 of 7 March 1988). The 1988 report was presented to the Conference in document CD/857 of 12 August 1988 and in Working Paper CD/861 of 22 August 1988.

The Norwegian research programme is directly linked to the negotiations on Article IX of the Chemical Weapons Convention. Together with Canada, Norway has submitted a proposal for a text concerning procedures as an Annex to this Article (document CD/766 of 2 July 1987).

In 1988-1989 the Norwegian Defence Research Establishment introduced a new technique of analysis for verification of alleged use of chemical weapons. It is called the headspace gas chromatography technique, which permits analysis directly on samples without prior cleaning procedures. Based on this simplified method, research is being continued with a view to further developing the procedures to be followed by an international inspection team. In 1988-1989, the research has been focused on the application of this new method and its consequences for sampling, handling and transport of samples.

The verification procedure

The verification procedure developed as part of the Norwegian research programme is based on a method applying absorption of chemical warfare agents from aqueous solutions to porous polymers. This involves extracting solid sample material with water before this extract is passed through a cartridge filled with a porous polymer. The advantage of this method is, firstly, that the amount of sample which has to be carried back to the laboratory is dramatically reduced and, secondly, that the same procedure may be used for several types of sample material.

The complete verification procedure also includes a method for analysing various sample materials where no preliminary preparation of the samples is necessary. This technique is known as headspace gas chromatography and has not been described previously in connection with verification of alleged use of chemical warfare agents. The great advantage of this technique is that almost all kinds of sample materials may be used. Samples are collected in small glass vials, which are sealed with stoppers and transported to the laboratory for analysis. The vials can then be inserted directly into the headspace instrument where the sample is heated to generate a vapour concentration of any volatile chemical contaminant present in the sample. Finally, a gas sample is injected onto the gas chromatograph connected to the headspace instrument. This can be automated after the conditions for analysis have been decided. The probability of positive analysis by this technique will depend on the type of sample material and the chemical agent to be analysed, and optimal analytical conditions will have to be evaluated in each individual case. Optimal conditions for the heating block with regard to temperature and time are important factors in order to obtain a positive analysis by means of the headspace technique.

Laboratory experiments

Laboratory experiments have been carried out using the headspace technique to develop optimal analytical procedures for analysing the nerve agents tabun, sarin and soman, the blister agent mustard gas, and a production by-product of sarin, diisopropyl methylphosphonate. Analytical procedures have also been developed and tested for 10 different sample materials, including water, soil, sand, grass, neoprene, silicone, butyl rubber, paper, polyester/cotton fabric and polyurethane foam with activated charcoal.

Field trials

The headspace method was tested in two field exercises during the winter of 1988-1989 and the spring of 1989. The first exercise took place in February during a period when the temperature varied between 0 and +10°C, while the second was carried out in April-May with temperatures varying between +5 and +30°C. In both trials, samples were spiked with chemical warfare agents and placed outdoors in order to expose them to the prevailing weather conditions.

In the first exercise a limited number of samples were tested in order to get an idea of the usefulness of the technique. The sample materials used were water, soil, butyl rubber and polyester/cotton fabric. All samples were contaminated with 1 mg of each of the nerve agents sarin and soman. The samples were then left outdoors for exposure to the prevailing weather conditions. Samples were collected after 1, 2, 5, 7, 14 and 28 days and analysed in the laboratory by the headspace method. Such frequent intervals were chosen in order to get an idea of the deterioration rate of chemical agents in environmental samples.

In the second exercise the number of agents was increased to five and included tabun, sarin, soman, mustard gas, and diisopropyl methylphosphonate. Furthermore, the number of sample materials in the exercise was increased to 10, including water, soil, sand, grass, neoprene, silicone, butyl rubber,

paper, polyester/cotton fabric and polyurethane foam with activated charcoal. The size of the samples and the amount of agent were the same as during the first exercise. Analysis was carried out after two and four weeks.

Sample handling

The possibility of achieving a positive verification will inter alia depend on the conditions for handling and transporting samples. A separate exercise has therefore been carried out to evaluate the influence of various temperatures during the transport of headspace vials. Temperatures of +20, 0 and -20°C were chosen, simulating room temperature and the approximate temperatures of a refrigerator and of a freezer respectively. As in the second field trial, 5 different chemical agents and 10 different sample materials were used in the experiment. The various samples were spiked with 1 mg of each agent. The headspace vials were immediately sealed with the appropriate stopper and stored for 24 hours under the various temperatures. They were then analysed according to standard procedure.

Analytical method

A screening method to be used on samples suspected of containing one or more of the chemical agents tabun, sarin, soman, mustard gas and diisopropyl methylphosphonate has been developed. The optimal method for each of the agents depends on the agent, the sample matrix, the thermostating time and temperature as well as on the standard gas chromatographic conditions. The gas chromatogram was recorded with a Carbowax 20M column and a flame ionization detector with a temperature programme starting at 140°C for 2 minutes, rising by 10°C/minute to 160°C, and continuing at this temperature for 6 minutes. The samples were thermostatted in the heating block at 100°C for 12 minutes.

Results

The results of the field exercise under winter conditions, in which sarin and soman were used, clearly show that headspace gas chromatography can be a valuable method in verification of alleged use of chemical warfare agents. How much of the agent is detected depends both on the agent and on the type of sample it is recovered from. The amount of agent recovered seems to decline very rapidly during the first 2-5 days of outdoor exposure, but after that the deterioration is much slower. As expected, the amount of sarin declined faster than the amount of soman. After 7 days, the recovery in percentage of applied amount of sarin varied from 0 in polyester/cotton fabric and butyl rubber to 6.5 in polyurethane foam with activated charcoal. After 14 and 28 days, sarin was found only in silicone (0.3 per cent and 0.02 per cent) and polyurethane foam (3.3 per cent and 0.8 per cent). Soman was recovered in all samples after 7 and 14 days in percentages of applied amounts ranging from 0.2 to 27.8 after 7 days and from 0.02 to 15.6 after 14 days. After 28 days soman was detected in all samples except water in percentages varying from 0.04 to 6.0. Silicone gave the best results for soman in all these periods, while polyester/cotton fabric and water gave the poorest results. Both sarin and soman were recovered in silicone and polyurethane foam with activated charcoal, which indicates that polymers such as these are preferable as sample materials in verification of alleged use of chemical warfare agents.

The second exercise, which was conducted under summer conditions, showed that sarin was found in 7 of the 10 types of sample materials after 14 and 28 days of exposure, in all cases in amounts ranging from 0.2 per cent to 0.4 per cent of the applied amount of agent. No sarin was recovered from water, soil and grass.

Soman was found in 6 of the 10 types of sample materials after 28 days in percentages of applied amounts varying from 0.04 in paper to 3.5 in silicone. In this case no agent was found in the water, soil, grass or sand samples. After 14 days soman was also found in the sand sample, and more than 1 per cent was recovered in samples of paper, silicone, neoprene and polyurethane foam with activated charcoal. The highest recovery was again obtained with silicone, with 11.2 per cent of the applied amount.

Tabun is difficult to detect in samples exposed to prevailing weather conditions for periods of up to 28 days. In this exercise tabun was found only in the silicone sample after 28 days, but in this case the recovery was as high as 6.9 per cent of the applied amount. After 14 days tabun was found not only in silicone (8.3 per cent), but also in the paper sample (0.4 per cent).

The results of the experiments with mustard gas were quite similar to the results using soman, since mustard gas was found in all samples except water, soil, grass and sand after both 14 and 28 days, in percentages varying from 0.01 to 8.3 after 28 days, and 0.1 to 13.8 after 14 days. The polymer materials silicone, neoprene, butyl rubber and polyurethane foam with activated charcoal all contained more than 1 per cent of the applied amount of mustard gas after 28 days and seem to be good absorbents of mustard gas.

Diisopropyl methylphosphonate, which is a production impurity of sarin, is a stable chemical compound and was found in large quantities in all types of materials both after 14 and after 28 days of exposure. Water, grass, silicone and polyurethane foam with activated charcoal gave the best results with more than 10 per cent recovered after 28 days.

The results of the sample-handling experiments show that the samples should be transported at low temperature in order to enhance the possibility of positive verification of alleged use of chemical warfare agents. A positive verification will depend both on the chemical agent and on the sample matrix.

The results of 24 hours' storage at -20°C in a freezer show that all the agents were verified in all the various kinds of samples except tabun in water and grass. Tabun was found in percentages of applied amount ranging from 6.9 in sand to 64.5 in polyester/cotton fabric, sarin from 1.2 in grass to 93.7 in polyester/cotton fabric, soman from 6.5 in grass to 84.6 in butyl rubber, mustard gas from 8.2 in grass to 100 in polyester/cotton fabric and diisopropyl methylphosphonate from 9.9 in sand to 98.7 in grass.

In the samples stored for 24 hours at 0°C in a refrigerator, all agents were verified except tabun in water, grass and soil and sarin in grass. The recovered amounts were less than at -20°C , especially as regards tabun and mustard gas, but to some extent also as regards sarin, soman and diisopropyl methylphosphonate.

The results of 24 hours' storage at room temperature (+20°C) show lower recoveries than storage at the other temperatures, but all agents could be verified in all sample materials except tabun in water, soil, grass and sand and sarin in grass. Tabun was found in percentages of applied amount ranging from 0.8 in polyester/cotton fabric to 15.5 in polyurethane foam with activated charcoal, sarin from 3.2 in soil to 64.7 in polyurethane foam with activated charcoal, soman from 1.4 in grass to 45.8 in polyurethane foam with activated charcoal, mustard gas from 2.9 in grass to 78.2 in polyester/cotton fabric and diisopropyl methylphosphonate from 2.7 in sand to 93.5 in water.

Conclusions

Headspace gas chromatography in combination with a simple detection device such as flame ionization has been extensively tested in laboratory and field exercises and has proved to be an important additional tool in verification of alleged use of chemical warfare agents. A combination of headspace gas chromatography and mass spectrometry would have improved these results substantially. This means that headspace gas chromatography represents a useful technique for verification of alleged use of chemical weapons. This technique should be incorporated in the procedures to be followed by an international inspection team.

The exercises have shown that chemical agents can be identified in samples exposed to prevailing weather conditions for periods of up to 28 days. The main advantage of this technique is that no preliminary clean-up or preparation is necessary before analysis in the laboratory. The stability is dependent on the absorption properties of the different matrices. Absorption into polymers obviously protects the agent from degradation and improves the chances of a positive verification. The experiments showed that the results are dependent on the water content of the samples. The present information makes it possible to evaluate which sample material should be preferred.

After collection of samples, the vials are sealed and transported to the laboratory for analysis. The stability of the tested agents in 10 different matrices has shown that in most cases, no precautions in storing the samples should be necessary. However, it should be borne in mind that in all cases, the recoveries are higher when samples are stored at low temperatures. By taking precautions in storing the samples, the possibility of positive verification is enhanced.

CONFERENCE ON DISARMAMENT

CD/940

31 July 1989

Original: ENGLISH

LETTER DATED 31 JULY 1989 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT FROM THE CHARGE D'AFFAIRES A.I. OF NORWAY TRANSMITTING A RESEARCH REPORT ENTITLED "VERIFICATION OF A CHEMICAL WEAPONS CONVENTION. HEADSPACE GAS CHROMATOGRAPHY. A NEW TECHNIQUE IN VERIFICATION OF ALLEGED USE OF CHEMICAL WARFARE AGENTS. PART VIII" */

I have the honour to transmit to you a research report entitled Verification of a Chemical Weapons Convention. Headspace Gas Chromatography. A New Technique in Verification of Alleged Use of Chemical Warfare Agents. Part VIII, published by the Royal Norwegian Ministry of Foreign Affairs.

I would appreciate if the report would be circulated as an official CD document.

(Signed)

Torbjørn Aalbu
Chargé d'Affaires a.i.

*/ A limited distribution of the document in English only has been made to the members of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Norway at Geneva.

10/10/50

LETTER DATED 20 OCT 1950 AT WASHINGTON TO THE DIRECTOR OF THE COMBATANT
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CONFIDENTIAL - SECURITY INFORMATION

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CONFERENCE ON DISARMAMENT

CD/947

9 August 1989

Original: ENGLISH

LETTER DATED 9 AUGUST 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT BY THE PERMANENT REPRESENTATIVE OF CANADA TRANSMITTING A REPORT ISSUED AS ARMS CONTROL VERIFICATION PAPER NO. 3, ENTITLED "INTERNATIONAL ATOMIC ENERGY AGENCY SAFEGUARDS AS A MODEL FOR VERIFICATION OF A CHEMICAL WEAPONS CONVENTION" */

On 21-24 October 1988, the Strategic Studies Programme of the University of Calgary convened a workshop in Banff Springs, Alberta, Canada, on the subject of "International Atomic Energy Agency Safeguards as a Model for Verification of a Chemical Weapons Convention". The proceedings of this workshop, which involved the participation of several Canadian and international experts as well as representatives from the IAEA and of some delegations to the Conference on Disarmament, have now been published by the Arms Control and Disarmament Division of the Canadian Department of External Affairs. I enclose copies of that report, issued as Arms Control Verification Paper No. 3, and should be grateful if you would arrange for it to be circulated as an official document of the Conference on Disarmament.

(Signed) de Montigny Marchand
Ambassador and
Permanent Representative

*/ A limited distribution of the 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/948
CD/CW/WP.260
14 August 1989

Original: ENGLISH

LETTER DATED 10 AUGUST 1989 ADDRESSED TO THE SECRETARY-GENERAL OF
THE CONFERENCE ON DISARMAMENT BY THE PERMANENT REPRESENTATIVE OF
AUSTRIA TRANSMITTING A DOCUMENT ENTITLED "PRELIMINARY REPORT ON
AN AUSTRIAN NATIONAL TRIAL INSPECTION"

I have the honour to forward to you a copy of the "Preliminary Report on an Austrian National Trial Inspection" in a chemical facility on 8 and 9 August 1989. I would be grateful if you could provide for the circulation of this document as an official document of the Conference as well as an official working paper of the Ad Hoc Committee on Chemical Weapons.

(Signed) Franz Ceska
Ambassador
Permanent Representative

Preliminary Report on an Austrian National Trial Inspection

The Austrian National Trial Inspection took place in July/August 1989 and followed the scheme laid down in CD/CW/WP.248/Rev.1. For technical reasons the present report is submitted to the conference as a first information on its facts and findings. The chemical substance selected for the inspection was DIMETHYLETHANOLAMINE, listed in schedule (2) of the present rolling text, and used as an initial product in the production of substance "B". The chosen facility is a multi-purpose plant.

It was the aim of the inspection to verify that the respective schedule (2) chemical was only used for non-prohibited production purposes and that the equipment of the facility */ was not used for any schedule (1) chemical production. Verification procedures encompassed sample taking as well as controlling of relevant documentation.

The initial visit of the respective facility took place on 13 July and was conducted by the inspection team including chemical experts of the University and Technical University of Vienna, representatives of the Ministry for Foreign Affairs, Ministry for Defense, Ministry for Economic Affairs and the Federation of the Austrian Chemical Industry. All together, the inspection team was composed of seven persons. Representatives of the respective company were present at all stages of the initial visit as well as during the following trial inspection.

Main topics of the discussion during the initial visit concerned the protection of confidentiality, the preparation of the initial declaration and the detailed planning of the trial inspection. A first on-site visit of the facility was conducted as an orientation tour.

The trial inspection took place on two consecutive days three weeks later (8 and 9 August 1989). The first day of the inspection was used for the convening of the opening conference and for the collection of data and samples, based on the one hand on the initial declaration and the facility attachment provided for by the facility and on the other hand on an "inspection scheme" prepared by the technical experts of the inspection team.

The second day was used for specific discussions between the inspection team and the company staff about first results obtained, the clarification of open questions and the convening of the final conference.

At the beginning of the inspection the team first discussed general questions with the company representatives and thereafter split up into two groups - an "analytical" and a "technical" one.

During the work of the analytical group, samples were drawn from the production batch of the last production campaign (31 March - 18 June 1989) and analysed by thin-layer chromatography for product identification. For the verification of the non-production of schedule (1) chemicals, samples were drawn from the air-filter of the production building and from an aqueous waste

*/ "Facility" for the purpose of this report means the site where the respective chemical is handled.

stream. They are presently analysed by GC retention index monitoring and GC-MS (gas chromatography-mass spectrometry).

The technical group centred its interest on four specific items. The inspection of the facility installations included the surroundings of the facility, technical equipment, safety equipment, storage facilities and waste management.

The check of schedule (2) chemical consumption used in the production of chemical "B" evaluated in detail the overall material balance.

The evaluation of the facility production record consisted in checking routine instrumental data and log-books against the actual production plan. Specific emphasis was given to the question of short-term changes in production.

In the course of the schedule (2) chemical inventory, input/output data were verified by checking the material flow sheet. The detailed and cross linked production and material records presented by the company were an essential precondition for establishing the material balance. Problems arising in the course of the inspection of a company with a less elaborate documentation were discussed.

Likewise, in subsequent discussions between the inspection team and the company staff it was felt that it might be quite different if an inspection team was confronted with a "hostile" company staff. In this context, the question of verifying a temporary closure of the facility as declared by the company might pose specific problems.

The possibility to use a facility-specific computer programme for rapidly processing input/output data for monitoring inconsistencies in the data provided by the company which could form part of the facility attachment was also considered.

First results discussed on the second day centred on the outcome of the verification of the documentation provided. Further issues considered dealt with the costs of the inspection for the company, the different implications of on-site and off-site analysis of samples taken, the various possibilities of defining a facility and the specific problems of verification in a multi-purpose facility.

In the course of the final conference, agreement was reached that, based on the favourable attitude of the company, all needed documentation could be checked. It was stated by the inspection team that no evidence was found for any activity in breach of the actual provisions of the rolling text. Specifically it was proved that the whole amount of the declared schedule (2) chemical was used for non-prohibited purposes. The results of the GC-MS analysis to confirm the non-production of any schedule (1) chemical will be available in a few weeks.

A comprehensive report on the Austrian National Trial Inspection will be submitted to the conference in due time.

CZECHOSLOVAKIA

Data Relevant to the Convention on the Complete and General Prohibition and Destruction of Chemical Weapons

With a view to contributing to the speedy elaboration, agreement, signature and entry into force of an international convention on the complete and general prohibition and destruction of chemical weapons, to facilitating the practical resolution of the issues of international verification and of creating an atmosphere of confidence, the Czechoslovak Socialist Republic is herewith submitting the below stated data in accordance with the proposal by the USSR of 18 February 1988 and the basic ideas of document CD/828, dated 12 April 1988. By submitting these data Czechoslovakia is, at the same time, implementing the relevant passage of the Declaration of the Government of the Czechoslovak Socialist Republic on Issues Concerning the Prohibition and Destruction of Chemical Weapons of 5 January 1989 (document CD/878).

The data concerning relevant substances and facilities producing and consuming these substances reflect the situation in the Czechoslovak Socialist Republic as of the beginning of 1989. They have been provided on a voluntary basis by the respective Czechoslovak bodies and institutions. The chemicals included in the list are based on the preliminary lists of chemical substances of Schedules 1, 2 and 3 of document CD/881, dated 3 February 1989. Listed are chemicals, the production and consumption of which exceeds in Schedule 1 - 100 g annually; in Schedule 2 - 1 ton annually; and in Schedule 3 - 30 tons annually.

TABLE 1

CZECHOSLOVAK SOCIALIST REPUBLIC

Type of data	Reply	Note
1. Presence of CW on own territory	No CW are located in the territory of Czechoslovakia	
Possession of CW on territory of another State	None	
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	31	1/
3. Types and names of CW agents produced	Czechoslovakia neither produces nor possesses CW	
Types of CW munition stored; CW agents in bulk	None	
Number and names of chemicals on Schedules 1, 2 and 3 produced in the chemical industry	14	2/
4. Plans and methods for the destruction of CW including the number of facilities and the anticipating 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 Czechoslovakia 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
<u>Schedule 1</u>		
Production	more than 100 g	1
Consumption	more than 100 g	2
<u>Schedule 2</u>		
Production	more than 1 ton	1
Consumption	more than 1 ton	4
<u>Schedule 3</u>		
Production	more than 30 tons	3
Consumption	more than 30 tons	20

TABLE 3

More detailed reply to the respective part of item 3 of table 1

Schedule	Number of facilities	Produced chemicals	Note
Schedule 1	1	Sarin (107-44-8) Soman (96-64-0) Tabun (77-81-6) VX (50782-69-9) Yperite (505-60-2) Lewisits N-Yperits BZ (6581-06-2)	<u>1/</u>
Schedule 2	1	N, N-disubstituted aminoethan-2-ols	
Schedule 3	3	Phosgene (75-44-5) Hydrogen cyanide (74-90-8) Cyanogen chloride (506-77-4) Dimethyl phosphite (868-86-9)	

1/ The production of all chemicals of Schedule 1 occurs in the Czechoslovak Socialist Republic only within the framework of research and laboratory projects carried out exclusively for research, medical, pharmaceutical and protective purposes.

FEDERAL REPUBLIC OF GERMANY

Report on a Trial Inspection to test the validity of a
proposed format for ad hoc on-site verification

Introduction

On 21 June 1989, a group of experts of the Federal Republic of Germany conducted a trial inspection at an industrial plant site in order to test the validity of a proposed format for ad hoc verifications. The results of this trial inspection, which are presented below, are encouraging. They clearly show that it is feasible to carry out such an inspection within a few hours and that it will render a high degree of certainty that no activities prohibited under the CW Convention are taking place at the factory in question.

The discussions within the Ad hoc Committee on ad hoc verification have so far not resulted in agreed concepts or treaty provisions. Yet, there seems to be a growing awareness in the CD that some kind of additional on-site routine verification is needed by which facilities of the chemical industry not declared under schedules (1), (2) or (3), but which could be misused for the production of chemical weapons, are put under some ad hoc on-site monitoring.

The cornerstone of any such ad hoc verification régime will be an inspection format that should meet the following requirements:

- It must be relatively simple in character in order to allow for a rather high turn out in terms of numbers of inspections. Otherwise it would be unfeasible to cope with the high number of relevant facilities;
- It should yield a high degree of confidence as to Treaty compliance;
- It should be as unintrusive as possible and should not impede on-going production within the inspected facility.

In Working Paper CD/869 of 6 September 1988 the Delegation of the Federal Republic of Germany suggested a format for such an inspection which was subsequently refined further and which consists of the following elements:

- The purpose of the inspection shall be to verify the absence of undeclared production of chemicals that are listed on schedules (1), (2) or (3);

- In this respect, samples will be taken at various points of the inspected facilities at the discretion of the inspectors;
- Sample analysis will be made on-site within short time by making use of a mobile mass spectrometric/gas chromatographic instrument;
- No facility attachment will be needed and no in-depth facility inspection shall take place, yet visual inspection of the factory by the inspectors will not be excluded.

For the purpose of the trial ad hoc check there was a need to clearly define what is meant by the term "facility". The term "facility" in itself is rather expandable and not very clear. In the chemical industry this term often is used to denote an arrangement of agitated vessels and associated feed supplies and auxiliary equipment that form a production unit. A factory can house a number of such facilities. Hence, it was assumed that the on-site ad hoc verification measure should be applied to a factory - either as a single entity or as part of a larger complex - but not to facilities in the narrow sense outlined above.

Conduct of the inspection

In order to make the inspection as realistic as possible, the group of inspectors, which consisted of two chemical experts, had not detailed advance knowledge about the factory they were to inspect. They only knew that they would have the choice between five different factories (in German terminology Betrieb) belonging to a major chemical complex. That complex covered approximately four square kilometres comprising more than 70 individual factories. During one and a half hours briefing they obtained information concerning the general nature and the exact location of the five factories, i.e. information that after entering into force of the Convention would already be available to the Technical Secretariat as part of a national register. Moreover, maps of the plant site were shown and explained to the inspectors. Based on that information, they made their choice and identified one factory as the subject of the inspection. They obtained further information on that factory. None of the information they obtained was considered as confidential by the operator of the facility.

The inspected factory consisted of one three-story building housing various production facilities with about 25 agitated vessels, auxiliary equipment (separators, heat-exchangers, distillation columns) and about 30 storage tanks in an associated tank farm. Its main purpose was to produce carbamate pesticides.

Sample taking

For one and a half hours the inspectors collected 21 samples and had an opportunity to gain an overall impression of the factory and the activities going on there. Sample taking was facilitated by the fact that there were numerous regular sample taking devices already built in. Most samples were in a liquid form, in a few cases solid samples were collected too. Samples were also taken from two of several storage barrels, one had a label, the other was unlabelled.

In some instances, sample taking turned out to be unfeasible, since the vessel in question was just under operation. However, in these cases, sample taking was possible at other parts of the respective facility connected to that vessel by pipes.

In addition, low volume vapour samples, using Tenax tubes, were collected from an empty reaction vessel. Furthermore, surface contamination was sampled by swabbing or wiping various surface areas, like pipes, containers and the floor.

Analysis of samples

The samples were analysed on-site using the mobile mass-spectrometric detection system MML, which was fitted into a van. The analysis consisted of a screening for the presence of 15 chemicals listed as examples under schedule (1). The screening of further substances that fall under schedule (1) or under schedule (2) and (3) was not feasible at that time, since the relevant data were not yet fed into the computer programme. The MML was operated mainly in the multiple-ion-selection mode using up to four characteristic fragment ions for preliminary identification.

The 21 samples were screened within 80 minutes. Among the samples was one false positive. The matter was resolved immediately by applying improved GC separation and evaluation of one mass spectrum. The spectrum then was deleted in order to protect confidential information it might have contained.

Conclusions

The most salient result of the trial inspection is that it turned out to be feasible to undertake an ad hoc on-site verification along the suggested format. The inspection did not last for more than three hours and yielded a high degree of confidence that those substances the inspectors did look for were not present at the time of the check. The inspection remained unintrusive, since the disclosure of confidential information was not needed and the on-going production was not impeded.

The purpose of this trial inspection was to gain a first hand experience concerning the validity of the suggested format for an on-site inspection. Further conceptual work and testing is needed, since this trial inspection took place under relatively favourable conditions. The inspected factory was well organized and had a host of already established sample taking points. An information visit by the inspectors to an adjacent, but considerably older factory of the same complex showed that sample taking is not always easy when the facility is less well organized - i.e. in terms of visibility of pipe connections - and not equipped with many sample taking points. However, also in this case the proposed inspection format seemed to be feasible.

In evaluating the results of the trial inspection, the following areas for further development were identified:

- There is a need for expanding the number of substances the presence of which shall be screened by the MML device. In principle, it will be feasible to feed the instrument with screening data for a considerably larger number of substances. Problems are posed by large families of substances - like under positions 1, 2 and 3 of schedule (1) or position 1 of schedule (2) - for which often no data are available. In some cases, as with VX and its precursors, a combination of certain

mass spectral key ions that are characteristic for structural elements of families of chemicals, can be easily screened. In other cases, further efforts will have to be undertaken.

- It will have to be decided how to proceed in case substances listed under schedules (2) or (3), but not declared for the facility, are identified during such an inspection. As long as declaration thresholds are not exceeded, such a finding alone will not necessarily indicate a violation of the Convention. Thus, further information and evidence is needed in order to assure that the factory actually was abiding by the Convention. Most likely, a co-operative procedure by which the factory operator is given an opportunity to clarify the matter by presenting information or evidence to the inspectors, will be most appropriate.

Statement by the Group of 21 on the Government-Industry
Conference Against Chemical Weapons

The Group of 21 firmly supports and actively participates in the negotiations under way in the Conference on Disarmament in Geneva to conclude at the earliest date a multilateral convention on the complete and effective prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction. The Group of 21 strongly condemns the use of chemical weapons and reaffirms its commitment to an early comprehensive ban as the only effective and non-discriminatory solution to the threat posed by chemical weapons. That threat, aggravated by recent developments, cannot be removed by non-proliferation measures but only by the total elimination of chemical weapons.

The Government-Industry Conference Against Chemical Weapons scheduled to take place in Canberra on 18-22 September 1989 must not seek to establish any alternative or parallel approach to the chemical weapons negotiations in the CD. Apprehensions of the Group of 21 about the relevance, objectives and structure of the Canberra Conference need to be clearly understood and addressed so that its outcome does not run counter to the current negotiations in Geneva.

The Group of 21 is firmly opposed to any restrictive measures which may hamper the development of chemical industry, transfer of technology and international co-operation for peaceful purposes in this field.

The Group of 21 expects the Canberra Conference to unambiguously endorse the objective of an early comprehensive prohibition of chemical weapons and lend its support to the ongoing negotiations to that effect within the Conference on Disarmament.

REPORT OF THE AD HOC COMMITTEE ON CHEMICAL WEAPONS TO THE CONFERENCE ON DISARMAMENT

I. INTRODUCTION

1. At its 487th plenary meeting on 16 February 1989, the Conference on Disarmament adopted the following decision on the re-establishment of the Ad Hoc Committee on Chemical Weapons (CD/889):

"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 possible date, in accordance with United Nations General Assembly resolutions 43/74 A and C, 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 1989 session, the Ad Hoc Committee to continue the full and complete process of negotiations, developing and working out the convention, except for its final drafting, 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 1989 session."

II. ORGANIZATION OF WORK AND DOCUMENTATION

2. At its 487th plenary meeting on 16 February 1989, the Conference on Disarmament appointed Ambassador Pierre Morel of France as Chairman of the Ad Hoc Committee. Mr. Abdelkader Bensmail, Senior Political Affairs Officer of the Department for Disarmament Affairs, continued to serve as Secretary of the Ad Hoc Committee, assisted by Ms. Agnès Marcaillou, Political Affairs Officer, Department for Disarmament Affairs.

3. The Ad Hoc Committee held 26 meetings from 17 February to 18 August 1989. In addition, the Chairman held a number of informal consultations with delegations.

4. At their request, 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.

5. During the 1989 session, the following official documents dealing with chemical weapons were presented to the Conference on Disarmament.

- CD/877 (also issued as CD/CW/WP.218), dated 13 January 1989, entitled "Letter dated 12 January addressed to the Secretary-General of the Conference on Disarmament from the Head of the Permanent Mission of Italy to the Conference on Disarmament, transmitting a document entitled "Proceedings of the International Forum on 'Total Ban of Chemical Weapons: the Problems of Verification', Rome, Villa Madama, 19-20 May 1988".

- CD/878, dated 18 January 1989, entitled "Letter dated 17 January 1989 addressed to the Secretary-General of the Conference on Disarmament from the Chargé d'Affaires a.i. of the Czechoslovak Socialist Republic transmitting a statement made in Prague on 5 January 1989 by the Government of the Czechoslovak Socialist Republic on issues concerning prohibition and elimination of chemical weapons".

- CD/880, dated 30 January 1989, entitled "Letter dated 27 January 1989 from the representative of France addressed to the Secretary-General of the Conference on Disarmament, transmitting the text of the Final Act of the Paris Conference of States Parties to the 1925 Geneva Protocol and Other Interested States, including the Final Declaration of the Conference, adopted on 11 January 1989".

- CD/881, dated 3 February 1989, entitled "Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 17 January to 3 February 1989".

- CD/889, dated 16 February 1989, entitled "Decision on the re-establishment of the Ad Hoc Committee on Chemical Weapons".

- CD/890 and Add.1 (also issued as CD/CW/WP.223 and Add.1), dated 20 February 1989, submitted by the delegation of Hungary, entitled "Report on the first national trial inspection".

- CD/893 (also issued as CD/CW/WP.224), dated 24 February 1989, entitled "Letter dated 24 February 1989 from the Permanent Representative of Italy addressed to the Secretary-General of the Conference on Disarmament transmitting an interim report on a trial inspection of two Italian chemical facilities".

- CD/894 (also issued as CD/CW/WP.225), dated 28 February 1989, entitled "Letter dated 27 February 1989 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting a text of the report on the national experiment on trying out procedures of systematic control of the non-production of chemical weapons in industry, held in the USSR".

- CD/895/Rev.1 (also issued as CD/CW/WP.226/Rev.1), dated 2 March 1989, submitted by the delegation of Brazil, entitled "National trial inspection: technical report".

- CD/897, dated 8 March 1989, entitled "Letter dated 7 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting the text of a press release issued by the Australian Minister for Foreign Affairs and Trade, Senator Gareth Evans, on 7 March 1989".

- CD/899 (also issued as CD/CW/WP.227), dated 10 March 1989, entitled "Letter dated 10 March 1989 addressed to the President of the Conference on Disarmament from the Permanent Representative of the German Democratic Republic transmitting the text of a working paper entitled 'Report on the national trial inspection of the GDR undertaken in a facility of the chemical industry'".

- CD/900 (also issued as CD/CW/WP.229), dated 14 March 1989, submitted by the delegation of Czechoslovakia, entitled "Report on the conduct and results of the national trial inspection".

- CD/901 (also issued as CD/CW/WP.230), dated 16 March 1989, submitted by the delegation of France, entitled "Chemical weapons convention: confidentiality".

- CD/907, dated 23 March 1989, entitled "Letter dated 22 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting a document entitled "Provision of data relevant to the chemical weapons convention".

- CD/909 (also issued as CD/CW/WP.232), dated 30 March 1989, submitted by the delegation of the United Kingdom, entitled "Chemical weapons convention: ad hoc inspections".

- CD/910 (also issued as CD/CW/WP.234), dated 4 April 1989, entitled "Letter dated 4 April 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Australia transmitting a document entitled 'Report of an Australian national trial inspection'".

- CD/911, dated 5 April 1989 entitled "Letter dated 30 March 1989 addressed to the Secretary-General of the Conference on Disarmament from the Deputy Permanent Representative of Canada transmitting compendia on Chemical Weapons comprising plenary statements and working papers from the 1988 session of the Conference on Disarmament".

- CD/912 (also issued as CD/CW/WP.235), dated 7 April 1989, submitted by the delegation of the Federal Republic of Germany, entitled "Report on a national trial inspection".

- CD/913 (also issued as CD/CW/WP.240), dated 11 April 1989, submitted by the delegation of France, entitled "National trial inspection".

- CD/916 (also issued as CD/CW/WP.242), dated 17 April 1989, submitted by the delegation of France, entitled "The Scientific Advisory Council".
- CD/917 (also issued as CD/CW/WP.243), dated 17 April 1989, submitted by the delegation of Belgium, entitled "National trial inspection".
- CD/921 (also issued as CD/CW/WP.245, dated 14 June 1989, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Verification of the chemical weapons convention: practice challenge inspections of military facilities".
- CD/922 (also issued as CD/CW/WP.250), dated 22 June 1989, submitted by the delegation of the United States of America, entitled "Report on a United States national trial inspection exercise".
- CD/924 (also issued as CD/CW/WP.251), dated 23 June 1989, submitted by the delegation of the Netherlands, entitled "Report on a national trial inspection".
- CD/925 (also issued as CD/CW/WP.252), dated 23 June 1989, submitted by the delegation of the Netherlands, entitled "An attempt to verify non-production in a chemical plant".
- CD/926, dated 22 June 1989, entitled "Letter dated 20 June 1989 addressed to the Secretary-General of the Conference on Disarmament by the Representative of the Netherlands, forwarding documents adopted at the meeting of the North Atlantic Council in Brussels on 29 and 30 May 1989".
- CD/930, dated 12 July 1989, entitled "Letter dated 6 July 1989 addressed to the President of the Conference on Disarmament by the Representative of the Federal Republic of Germany transmitting the text of the Joint Statement of 13 June 1989 signed in Bonn by the Chancellor of the Federal Republic of Germany and the General Secretary of the Central Committee of the Communist Party of the Soviet Union and Chairman of the Supreme Soviet of the Union of Soviet Socialist Republics together with the Text of the Joint Declaration adopted on 14 June 1989 in Bonn by the Minister for Foreign Affairs of the Federal Republic of Germany and the Minister for Foreign Affairs of the Union of Soviet Socialist Republics".
- CD/931, dated 12 July 1989, entitled "Letter dated 5 July 1989 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament transmitting the text of the Joint Statement signed at Bonn on 13 June 1988 by M.S. Gorbachev, General Secretary of the Central Committee of the CPSU and President of the USSR Supreme Soviet, and H. Kohl, Chancellor of the Federal Republic of Germany, and the text of the Joint Declaration by Ministers for Foreign Affairs of the USSR and the Federal Republic of Germany adopted at Bonn on 14 June 1989".
- CD/932, dated 12 July 1989, entitled "Letter dated 11 July 1989 addressed to the Secretary-General of the Conference on Disarmament from the Permanent Representative of Finland transmitting a document entitled 'Standard operating procedures for the verification of chemical disarmament, D.2, second proposal for procedures supporting the reference database'".

- CD/934, dated 18 July 1989, entitled "Letter dated 13 July 1989 addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of the Socialist Republic of Romania transmitting the text of a Communiqué of the Meeting of the Political Consultative Committee of the Warsaw Treaty States together with the text of a document entitled 'For a stable and secure Europe free from nuclear and chemical weapons, for a substantial reduction of armed forces, armaments and military spending'".

- CD/936, dated 21 July 1989, submitted by the delegation of Norway, entitled "Verification of alleged use of chemical weapons: a new approach for verification procedures".

- CD/940, dated 31 July 1989, entitled "Letter dated 31 July 1989 addressed to the President of the Conference on Disarmament from the Chargé d'Affaires a.i. of Norway, transmitting a research report entitled 'Verification of a chemical weapons convention: headspace gas chromatography: a new technique in verification of alleged use of chemical warfare agents. Part VIII'".

- CD/947, dated 9 August 1989, entitled "Letter dated 9 August 1989, addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of Canada transmitting a report issued as Arms Control Verification Paper No. 3, entitled 'International atomic energy safeguards as a model for verification of a chemical weapons convention'".

- CD/948 (also issued as CD/CW/WP.260), dated 14 August 1989, entitled "Letter dated 10 August 1989 addressed to the Secretary-General of the Conference on Disarmament by the Permanent Representative of Austria transmitting a document entitled 'Preliminary report on an Austrian national trial inspection'".

- CD/949 (also issued as CD/CW/WP.261), dated 15 August 1989, submitted by the delegation of Czechoslovakia, entitled "Data relevant to the convention on the complete and general prohibition and destruction of chemical weapons".

- CD/950 (also issued as CD/CW/WP.263), dated 17 August 1989, submitted by the delegation of the Federal Republic of Germany, entitled "Report on a trial inspection to test the validity of a proposed format for ad hoc on-site verification".

- CD/951, dated 17 August 1989, entitled "Statement by the Group of 21 on the Government-industry Conference on Against Chemical Weapons".

6. In addition, the following Working Papers were presented to the Ad Hoc Committee:

CD/CW/WP.214, dated 2 December 1988, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Identification of chemical substances".

CD/CW/WP.215, dated 8 December 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical weapons convention: protection of confidential information".

CD/CW/WP.216, dated 9 December 1988, submitted by the delegation of Sweden, entitled "Report on a Swedish national trial inspection".

- CD/CW/WP.217, dated 15 December 1988, entitled "Trial inspections: working paper by the Chairman of the open-ended consultations".
- CD/CW/WP.218 (also issued as CD/877).
- CD/CW/WP.219, dated 1 February 1989, entitled "Draft report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 17 January to 3 February 1989".
- CD/CW/WP.220, dated 3 February 1989, submitted by the delegation of Italy, entitled "Provision of data relevant to the chemical weapons convention".
- CD/CW/WP.221, dated 9 February 1989, submitted by the delegation of Norway, entitled "Provision of data relevant to the chemical weapons convention".
- CD/CW/WP.222, dated 17 February, presented by the Chairman of the Ad Hoc Committee on Chemical Weapons, entitled "Plan for the organization and work programme of the Committee during the 1989 session".
- CD/CW/WP.223 and Add.1 (also issued as CD/890 and Add.1).
- CD/CW/WP.224 (also issued as CD/893).
- CD/CW/WP.225 (also issued as CD/894).
- CD/CW/WP.226/Rev.1 (also issued as CD/895/Rev.1).
- CD/CW/WP.227 (also issued as CD/899).
- CD/CW/WP.228, dated 13 March 1989, submitted by the delegation of Japan, entitled "Report on national trial inspection".
- CD/CW/WP.229 (also issued as CD/900).
- CD/CW/WP.230 (also issued as CD/901).
- CD/CW/WP.231, dated 17 March 1989, submitted by the delegation of Canada, entitled "Definitions, schedules and toxic chemicals".
- CD/CW/WP.232 (also issued as CD/909).
- CD/CW/WP.233, dated 4 April 1989, submitted by the delegation of Finland, entitled "Report on the national trial inspection of Finland at a civilian chemical facility".
- CD/CW/WP.234 (also issued as CD/910).
- CD/CW/WP.235 (also issued as CD/912).
- CD/CW/WP.236, dated 7 April 1989, entitled "Trial inspections: Working Paper by the Chairman of the open-ended consultations".

- CD/CW/WP.237, dated 10 April 1989, entitled "Trial inspections: Working Paper by the Chairman of the open-ended consultations".
- CD/CW/WP.238, dated 10 April 1989, submitted by the delegation of Austria, entitled "Provision of data relevant to the chemical weapons convention".
- CD/CW/WP.239, dated 11 April 1989, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Verification of the non-production of chemical weapons: an illustrative example of the problem of novel toxic compounds".
- CD/CW/WP.240 (also issued as CD/913).
- CD/CW/WP.241, dated 12 April 1989, submitted by the delegation of the German Democratic Republic, entitled "Multilateral trial inspections (MTIs)".
- CD/CW/WP.242 (also issued as CD/916).
- CD/CW/WP.243 (also issued as CD/917).
- CD/CW/WP.244, dated 13 June 1989, presented by the Chairman of the Ad Hoc Committee on Chemical Weapons, entitled "Programme of work of the Committee during the second part of the 1989 session".
- CD/CW/WP.245 (also issued as CD/921).
- CD/CW/WP.246, dated 14 June 1989, submitted by the delegation of Japan, entitled "Guidelines for initial visit and verification inspection".
- CD/CW/WP.247, dated 16 June 1989, submitted by the delegation of Switzerland, entitled "Report on the National Trial Inspection".
- CD/CW/WP.248/Rev.1, dated 23 June 1989, entitled "National Trial Inspections: final report by the Chairman of the open-ended consultations".
- CD/CW/WP.249, dated 21 June 1989, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Report on a national trial inspection of an industrial chemical facility".
- CD/CW/WP.250 (also issued as CD/922).
- CD/CW/WP.251 (also issued as CD/924).
- CD/CW/WP.252 (also issued as CD/925).
- CD/CW/WP.253, dated 26 June 1989, submitted by the delegation of Finland, entitled "Verification laboratory: general features and instrumentation".
- CD/CW/WP.254, dated 3 August 1989, submitted by the delegation of Canada, entitled "Case study of unusual epidemiological findings caused by a toxin".

- CD/CW/WP.255, dated 9 August 1989, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Analytical techniques for a chemical weapons convention".
- CD/CW/WP.256, dated 14 August 1989, presented by the Chairman of Working Group 1, entitled "Working Paper by the Chairman of Working Group 1 on Article VI".
- CD/CW/WP.257, dated 14 August 1989, entitled "Report of the Chairman of Working Group 1 on his consultations on trial inspections".
- CD/CW/WP.258, dated 14 August 1989, presented by the Chairman of Working Group 4, entitled "Suggested guidelines for Schedule 1 in the Annex on Chemicals".
- CD/CW/WP.259, dated 14 August 1989, submitted by the delegation of Canada, entitled "Pinacolyl Alcohol".
- CD/CW/WP.260 (also issued as CD/948).
- CD/CW/WP.261 (also issued as CD/949).
- CD/CW/WP.262, entitled "Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament".
- CD/CW/WP.263 (also issued as CD/950).

III. SUBSTANTIVE WORK DURING THE 1989 SESSION

7. In accordance with its mandate, the Ad Hoc Committee continued the negotiation and further elaboration of the convention. In so doing, it utilized Appendices I and II of CD/881 (Report of the Ad Hoc Committee on Chemical Weapons on its work during the period 17 January to 3 February 1989), as well as other proposals presented by the Chairman of the Committee, the Chairmen of the Working Groups and by delegations.

8. Recognizing that a thematic approach was most appropriate at the current stage of the negotiations, the Ad Hoc Committee decided to set up the following five Working Groups:

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

Main responsibility: Articles VI, IX, Addendum to Appendix I, with special reference to:

1. General pattern of verification
2. Ad hoc checks and inspections
3. Challenge inspections
4. Trial inspections
5. Confidentiality.

(b) Working Group 2: "Legal and political questions"
(Chairman: Mr. Mohammed Gomaa, Egypt)

Main responsibility: Preamble, Articles I, XII, XIII, XIV, XV, XVI,
with special reference to:

1. Scope, jurisdiction and control
2. 1925 Geneva Protocol and CW convention
3. Amendments
4. Other final clauses, including settlement of disputes
5. Sanctions
6. Economic and technological development
7. Preamble
8. Old stocks: legal aspects.

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

Main responsibility: Articles VII, VIII, Preparatory Commission,
with special reference to:

1. Organs of the Organization, particularly the Executive council
(functions, composition, decision-making)
2. Scientific Council
3. Staffing requirements and costs of the Organization
4. Preparatory Commission: organizational aspects
5. National implementation measures.

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

Main responsibility: Articles II, VI, with special reference to:

1. Definitions (including chemical weapons)
2. Lists of chemicals
3. Revision of lists
4. Super-toxic lethal chemicals not included in Schedule [1]

5. Criteria: toxicity, threshold, capacity
6. Production outside the single small-scale production facility (régime for Schedule [1])
7. Order of destruction: technical aspects
8. Old stocks: definition aspects and former facilities.

(e) Working Group 5: "Transition"

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

Main responsibility: Articles III, IV, V, X, XI, with special reference to:

1. Preparation and transitional period (data exchange before and after the convention). Preparatory Commission
2. Undiminished security during the destruction period
3. Order of destruction (general approach)
4. Assistance and protection against chemical weapons
5. Economic and technological development
6. Universality.

9. In addition, the Chairman of the Committee held informal consultations on the following topics, in order to prepare the ground for their consideration by the Working Groups:

- Challenge inspections
- Sanctions
- Executive Council
- Universal adherence to the convention.

10. Furthermore, the Committee decided to establish a technical group on instrumentation, chaired by Dr. M. Rautio of Finland.

11. Pursuant to the proposal made in the 1988 session, that States participating in the negotiations conduct national trial inspections in the civilian chemical industry to enable effective detailed procedures for routine inspections to be elaborated on the basis of practical experience, and further to the informal open-ended consultations held under the auspices of the Committee in order to prepare the ground for national and multilateral trial inspections, 18 States have carried out and submitted final reports on their experiments. During the 1989 session, under the auspices of the Committee and at the request of its Chairman, Ambassador Carl-Magnus Hyltenius of Sweden held informal open-ended consultations in order to review and analyse national reports and identify aspects needing further consideration in the elaboration

of the verification procedures in the convention. This work was completed and reported on in CD/CW/WP.248/Rev.1 dated 23 June 1989. On the basis of the reported results of the National Trial Inspections, the Chairman of Working Group 1, as of July 1989, undertook informal consultations aimed at preparing the ground for future trial inspections. The results of these consultations are reported on in CD/CW/WP.257.

12. In addition, the Committee held a number of informal consultations with representatives from the chemical industry on the following subjects of relevance to the convention: (a) protection of confidential information; (b) technical aspects of the convention, in particular the contents of the schedules of chemicals together with their verification régimes; and (c) possible conclusions to be derived from the national trial inspections carried out so far.

IV. CONCLUSIONS AND RECOMMENDATIONS

13. The results of the work undertaken during the 1989 session are reflected in the up-dated versions of the Appendices to CD/881, 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 under the convention. They are included as a basis for future work.

14. 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 results of the 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;

(c) that work on the convention, under the Chairmanship of Ambassador Pierre Morel of France be resumed as follows:

(i) that in preparation for the resumed session, open-ended consultations of the Ad Hoc Committee be held between 28 November and 14 December 1989 including when necessary meetings with full services;

(ii) that the Ad Hoc Committee hold a session of limited duration during the period 16 January to 1 February 1990;

(d) that the Ad Hoc Committee be re-established at the outset of the 1990 session of the Conference on Disarmament; that Ambassador Carl-Magnus Hyltenius of Sweden be appointed as its Chairman for the 1990 session; and that the decision on the mandate be taken at the beginning of the reconvening of the Conference in 1990.

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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.

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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, withdrawal
- XV. Signature
- XVI. Ratification
- XVII. Accession
- XVIII. Deposit of Instruments of Ratification or Accession
- XIX. Entry into Force
- XX. Languages

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,] 1/ 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.] 1/

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.

1/ One delegation reserved its position on this question.

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] 3/ 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.] 4/

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 (ordnances) retrieved from the combat zones of World War I will have to be resolved later.

3/ One delegation reserved its position on this question.

4/ 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

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 verification, 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 are subject to further considerations in Working Group 1, based on 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;
- (iv) to decide on the scale of financial contributions to be paid by States Parties; 2/
- (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;

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

(viii) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention. 1/
2/ 3/

(ix) ... 4/

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. 5/

[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 6/

(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 Scientific Advisory Board be established as a subsidiary body.

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

3/ Work was undertaken in 1989 on the Scientific Advisory Board, the result of which is included in Appendix II.

4/ 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.

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

6/ 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, pp. 185-187.

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; 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, and revising lists of chemicals.

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. Guidelines on the International Inspectorate are specified in ... 1/

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] 2/ 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. 3/

6. 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.

7. 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/ Because of considerations under way in some capitals, the question of how to approach these guidelines will be decided later. The result of the work undertaken in this regard during the 1987 and 1988 sessions is contained in the Addendum to Appendix I of this report. During the 1989 session, work has been undertaken on a Protocol on Inspections Procedures, the text of which is contained in Appendix II. After further in-depth consideration, this Protocol will replace the Guidelines on the International Inspectorate in the Addendum to Appendix I.

2/ 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.

3/ Work was undertaken in 1989 on the Scientific Advisory Board, the result of which is included in Appendix II.

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/ 2/

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, as seen by them is presented in Appendix II with the aim of facilitating further consideration of the issue.

2/ 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, pp. 197-198.

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, WITHDRAWAL 2/

...

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.

XV. SIGNATURE

This Convention shall be open for signature for all States before its entry into force at (venue). 3/ 4/

XVI. RATIFICATION

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

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

4/ 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.

XVII. ACCESSION

Any State which does not sign the Convention before its entry into force may accede to it at any time. 1/

XVIII. DEPOSIT OF INSTRUMENTS OF RATIFICATION OR ACCESSION

Instruments of ratification and instruments of accession shall be deposited with the Secretary-General of the United Nations (hereby designated as Depositary). 2/

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. 3/

XX. LANGUAGES 4/

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

2/ One delegation was of the view that the procedures for the Depositary to inform States Parties of the deposit of instruments of ratification or accession need to be elaborated in this Article.

3/ 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.

4/ 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.

ANNEX ON CHEMICALS

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ANNEXES

ANNEX ON CHEMICALS

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[(a) "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 20 mg/kg [subcutaneous administration] or 20,000 mg-air/m³ [by inhalation].)]

2. 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 toxin chemical.

It may include [precursors] the following characteristics:

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

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

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

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/m³ (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/m³ (by inhalation) and less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (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/m³ (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 chemicals prohibited by the Convention] [super-toxic lethal chemical].

^{1/} The final placement of these definitions within the Convention 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-chloroethylthio)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-chlorovinyl dichloroarsine (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 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.

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 1/2/

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 Technical Secretariat has information which in its opinion may require a revision of the schedules of chemicals or one or more of the guidelines, it 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 Technical Secretariat, substantiated with necessary information.
4. The Technical Secretariat shall inform the Executive Council and States Parties about a proposal for a revision within [5] days of its receipt. 3/
5. Any State Party and [, as requested,] the Technical Secretariat, may also provide relevant information for the evaluation of the proposal.
6. The Technical Secretariat shall provide assistance to any State Party, when requested, in evaluating an unlisted chemical. This assistance shall be confidential [unless it is established in the evaluation that the chemical has chemical weapon properties]. 4/

B. Decisions regarding revision 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/ These modalities are in the process of further consideration and development.

2/ It has been proposed that the Scientific Advisory Board should be involved in the modalities for revision.

3/ The Executive Council shall examine in light of all information available to it, the proposal for a revision to a Schedule and promptly provide its recommendation to all States Parties for consideration.

4/ It has been stated that this paragraph is not necessary and could be deleted.

3. The decision on a proposal shall be taken by the Organization 1/ [Conference of the States Parties] by [a [two-third] majority vote] [consensus] [tacit approval of all States Parties 60 days after they have been informed of the proposal by the Technical Secretariat. If there is no tacit approval, the matter shall be reviewed by the [Conference of the States Parties] at its next meeting.] [If urgent consideration is requested by five or more Parties, a special meeting of the Conference of the States Parties shall be promptly convened.]

4. The decision on a proposal shall be taken within [60 days] after the receipt by the Technical Secretariat of the proposal. The decision shall be notified to all States Parties. An approved revision shall enter into force [30] days after such notification.

C. Decisions regarding revision of guidelines

1. The decision on a proposal shall be taken by the Organization 1/ by [a majority vote] [consensus]. 2/3/4/

1/ The question of which organ(s) of the Organization should be entrusted with this task should be considered further.

2/ The questions of the decision-making for and entry into force of revisions of guidelines require further consideration in the light of the work on amendment procedures to the Convention.

3/ The issue of revision of schedules pursuant to a revision of guidelines should be further considered.

4/ A view was expressed that a minimum time period for evaluation of a proposal before decision should be considered.

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 LD₅₀ 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 $22 \pm 3^\circ$ 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

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 $2,000 \text{ mg min/m}^3$ and $20,000 \text{ mg min/m}^3$.

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 ($2,000 \text{ mg min/m}^3$ or $20,000 \text{ mg min/m}^3$ 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 $200 \pm 20 \text{ g}$ 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 $22 \pm 3^\circ \text{ C}$ 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 airstream 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/m³ 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/m³. 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/m³) 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/m³) 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

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,

^{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], 1/ 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.] 1/

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].

1/ One delegation reserved its position on this question.

(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/

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.

1/ One delegation expressed reservations on this whole section in view of its position on the issue of declaration of location of chemical weapons stocks in Article IV.

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 Organization, 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 monitoring 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 3 (b) 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 [1] [10] [100] litres.

2. Production of Schedule 1 chemicals in quantities of more than 100 g per year may be carried out for [pharmaceutical] [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. (a) Synthesis of Schedule 1 chemicals for protective purposes may be carried out in aggregate quantities less than 100 g per year per laboratory at [a laboratory] [laboratories] approved by the State Party [if no single small-scale facility is established in the State Party]. [The number of laboratories shall not exceed [20]].

(b) Synthesis of Schedule 1 chemicals for research, medical or pharmaceutical purposes may be carried out [at laboratories approved by the State Party] in aggregate quantities less than 100 g per year per facility.

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.

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 [1] [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. Each State Party possessing or planning to possess a facility shall execute an agreement, based on a model agreement, with the Organization, before the facility begins operation or is used, covering detailed inspection procedures for the facility. Each agreement shall include: (to be developed). ^{1/}

^{1/} 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.

PRODUCTION OF SCHEDULE 1 CHEMICALS OUTSIDE THE SINGLE
SMALL-SCALE FACILITY

(a) Facilities which produce Schedule 1 chemicals in quantities exceeding 100 g per year

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. 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 [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 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,

[including verification that the capacity will not permit the production, on an annual basis, of quantities significantly above 10 kg of the chemical listed in Schedule 1] 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. Each State Party shall, for each facility, execute an agreement, based on a model for an agreement, with the Organization, before the facility begins operation or is used, covering detailed inspection procedures for the facility. Each agreement shall include: (to be developed).

(b) Facilities which synthesize Schedule 1 chemicals in quantities less than 100 g per year

[1. Each State Party shall provide annually to the Technical Secretariat the name and location of [the laboratory] [the laboratories] which at any time during the previous calendar year synthesized Schedule 1 chemicals for protective purposes [as well as the name(s) of those chemicals]. 1/

2. Each State Party shall provide annually to the Technical Secretariat the [total number 2/ of] [name and location of all] such laboratories which at any time during the previous calendar year [were approved by the State Party to] synthesize[d] Schedule 1 chemicals for research, medical or pharmaceutical purposes. 1/

3. Annual declarations shall be submitted not later than ... months after the end of the year.]

1/ The question whether transfer of Schedule 1 chemicals from a laboratory should be permitted or not needs further discussion.

2/ If so requested by the Technical Secretariat more detailed information shall be submitted.

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 the 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.

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(b) The capital to be raised is \$1,000,000.

The approximate amount of production and consumption of the chemical in the previous year (budget to be approved).

2. A State Party which the Technical Secretariat of the Commission has determined to be a major producer or consumer of chemicals listed in Schedule 3 (or an industrial plant to be defined).

3. VERIFICATION

The verification regime 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. 1/

OTHER DOCUMENTS

1/ Some consultations with interested States have taken place on this issue. A report on these consultations will be prepared by the Secretariat and will be submitted to the Commission by the end of 1952.

2/ Some consultations with interested States have taken place on this issue. A report on these consultations will be prepared by the Secretariat and will be submitted to the Commission by the end of 1952.

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 Commission].
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

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

GUIDELINES ON THE INTERNATIONAL INSPECTORATE 1/

This document consists of Sections I-III which reproduce Attachment (A) of the Report of the Co-ordinator for Cluster IV (CD/CW/WP.175) for the 1987 session and Section IV which represents the work in Group C during the 1988 session.

I. Designation

1. Verification activities in a State Party to the Convention shall only be performed by Inspectors designated to this State in advance.

2. The Technical Secretariat shall communicate, in writing, to the State concerned the names, nationality and ranks of the Inspectors proposed for designation. Furthermore, it shall furnish a certificate of their qualifications and enter into such consultations as the State concerned may request. The latter shall inform the Secretariat, within (30) days after receipt of such a proposal, whether or not it will accept the designation of each Inspector proposed. The Inspectors accepted by the State Party shall be designated to that State. The Technical Secretariat shall notify the State concerned of such a designation.

3. Should any State Party object to the designation of Inspectors, be it at the time they are proposed or at any time thereafter, it shall inform the Technical Secretariat of its objection. If a State Party raises objections to an Inspector already designated, this objection 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. In cases of objections to designation of Inspectors the Technical Secretariat shall propose to the State Party in question one or more alternative designations. The Technical Secretariat shall refer to the Executive Council any repeated refusal by a State Party to accept the designation of Inspectors if the Secretariat is of the opinion that such refusal impedes inspections to be conducted in the State concerned.

II. Privileges and immunities of Inspectors

1. To the extent necessary for the effective exercise of their functions, Inspectors shall be accorded the following privileges and immunities, which shall also apply to the time spent travelling in connection with their missions:

(a) immunity from personal arrest or detention and from seizure of their personal baggage;

(b) immunity from legal process of every kind in regard to what they do, say or write in the performance of their official functions;

1/ The texts contained in this document require further consideration and elaboration.

(c) inviolability of all the papers, documents, equipment and samples they carry with them;

(d) the right to use codes for their communication with the Secretariat and to receive papers or correspondence by courier or in sealed bags from the Secretariat;

(e) multiple entry/exit and/or transit visas and the same treatment in entry and transit formalities as is given to members of comparable rank of diplomatic missions;

(f) the same currency and exchange facilities as are accorded to representatives of foreign Governments on temporary official missions;

(g) the same immunities and facilities in respect to their personal baggage as are accorded to members of comparable rank of diplomatic missions.

2. Privileges and immunities shall be granted to Inspectors for the sake of the Convention and not for the personal benefit of the individuals themselves. The Secretariat shall have the right and the duty to waive the immunity of any Inspector whenever it is of the opinion that the immunity would impede the course of justice and can be waived without prejudice to the Convention.

3. If any State Party to the Convention considers that there has been an abuse of an above-mentioned privilege or immunity, consultations shall be held between that State and the Secretariat to determine whether such an abuse has occurred and, if so, to ensure that it does not repeat itself.

III. General rules governing inspections and the conduct of Inspectors

1. Inspectors shall carry out their functions under the Convention on the basis of the inspection mandate issued by the Technical Secretariat. They shall refrain from activities going beyond this mandate.

2. The activities of Inspectors shall be so arranged as to ensure on the one hand the effective discharge of the Inspectors' functions and, on the other, the least possible inconvenience to the State concerned and disturbance to the facility or other location inspected.

3. In the performance of their duties on the territory of a State Party, Inspectors shall, if the State Party so requests, be accompanied by representatives of this State, provided Inspectors are not thereby delayed or otherwise hindered in the exercise of their functions. If a State Party designates the Inspectors' point of entry into, and departure from, the State concerned and their routes and modes of travel within the State, it shall be guided by the principle of minimizing the time of travel and any other inconvenience.

4. In exercising their functions, Inspectors shall avoid unnecessarily hampering or delaying the operation of a facility or affecting its safety. In particular, Inspectors shall not operate any facility or direct the staff of the facility to perform any operation. 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 perform them.

5. After the inspection visit, Inspectors shall submit to the Technical Secretariat a report on the activities conducted by them and on their findings. The report shall be factual in nature. The report shall also provide information as to the manner in which the State Party inspected co-operated with the inspection team. Different views held by Inspectors may be attached to the report.

6. The National Authority of the State Party shall be informed of the findings of the report. Any written comments, which the State Party may immediately make on these findings shall be annexed to it. Immediately after receiving the report, the Technical Secretariat shall transmit a copy of it to the State Party concerned.

7. Should the report contain uncertainties, or should co-operation between the National Authority and the Inspectors not measure up to the standard required, the Technical Secretariat shall approach the State Party for clarification.

8. 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 Technical Secretariat shall inform the Executive Council without delay.

IV. General rules governing inspections under article IX 1/

1. For inspections under article IX, the guidelines set out in sections II and III shall apply, as appropriate, unless otherwise provided for in the following.

2. (a) (i) Inspections under article IX shall only be performed by Inspectors especially designated for this function. In order to designate Inspectors for inspections under article IX, the Director-General shall, by selecting Inspectors from among the full-time Inspectors for routine inspection activities, establish a list of proposed inspectors. It shall comprise a sufficiently large pool of International Inspectors having the necessary qualification, experience, skill and training, to allow for rotation and availability of Inspectors.

1/ The view was expressed that some main elements of the guidelines contained in this Section are subject to further consideration and elaboration of the principles of on-site inspection on challenge contained in Appendix II (pp. 197-198), which do not yet constitute any agreement and that these guidelines are presented with the aim of facilitating for delegations to analyse the situation and to arrive at common positions in the future work of the Committee.

(ii) The Director-General shall communicate to all States Parties the list of proposed Inspectors with their names, nationality and other relevant details. [Any Inspector included in this list shall be presumed accepted by States Parties as from 30 days after acknowledgement of receipt of the list. A State Party may indicate the ineligibility of an Inspector proposed or already designated for inspection of its facilities only in cases affecting its national interest.] 1/ [Any Inspector included in this list shall be regarded as accepted unless a State Party, within 30 days after acknowledgement of receipt of the list or at any time thereafter, declares its non-acceptance. In the case of non-acceptance, the proposed Inspector shall not be eligible for facilities of the State Party which has declared his non-acceptance.] 1/ The Director-General shall, as necessary, submit further proposals in addition to the original list of proposed inspectors. 2/

(iii) If, in the opinion of the Director-General [the cases of ineligibility] [the non-acceptance] of proposed Inspectors impede the designation of a sufficient number of Inspectors or otherwise hamper the effective fulfilment of the task of the International Inspectorate relating to inspections to be carried out under article IX, the Director-General shall refer them to the Executive Council.

(b) The Director-General shall establish a list of experts who may be called upon to complement the Inspectors designated under subparagraph (a) above for those types of inspection which require highly specialized skills. Paragraphs I 1, 2 and 3 and subparagraph 2 (a) (ii) and (iii) above shall apply to this list. 2/ 3/

Should there be circumstances requiring the service of experts not included in the above list, the Director-General may dispatch such experts to complement the team of Inspectors only with the consent of the requested State. 4/

1/ A view was expressed that measures against arbitrary handling of the right to refuse Inspectors needs to be considered.

2/ In order to ensure that the process of designation of Inspectors, experts and supporting staff 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.

3/ A view was expressed that the list of the experts and supporting staff should be kept to a minimum.

4/ This provision needs to be discussed further.

These experts shall be bound by the same obligations as provided for in article VIII.D.6 as well as in these guidelines.

(c) In order to assist the Inspectors in carrying out inspections under article IX, a list of supporting staff with special skills or training such as interpreters 1/ 2/ and security personnel shall be drawn up by the Director-General. 3/ 4/ Paragraphs I 1, 2 and 3 and subparagraph 2 (a) (ii) and (iii) above shall apply to this list.

(d) Whenever amendments to the above-mentioned lists of Inspectors, experts and supporting staff are necessary, new Inspectors, experts and supporting staff shall be designated in the same manner as set forth with respect to the initial list.

(e) Each State Party shall, within 30 days of the receipt of the list of designated Inspectors, experts and supporting staff, provide for or ensure the provision of visas and other such documents which each Inspector, expert or each member of the supporting staff may need to enter and to remain on the territory of the State Party 5/ for the purpose of carrying out inspection activities under article IX. These documents shall have a validity of at least 24 months.

1/ The Technical Secretariat should make arrangements for interpreters for national languages of States Parties, to the extent possible, to facilitate inspections.

2/ A view was expressed that consideration should be given to include provision in the Convention for the selection by States Parties of what languages of the Convention they will operate in for the conduct of inspections and submission of reports to the Technical Secretariat.

3/ In order to ensure that the process of designation of Inspectors, experts and supporting staff 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.

4/ A view was expressed that the list of the experts and supporting staff should be kept to a minimum.

5/ In cases where the facilities of a State Party subject to inspection are located in the territory of another State or where the access from the point of entry to the facilities subject to inspection requires transit through the territory of another State, consideration will need to be given to the arrangements to be worked out concerning the rights and obligations under these guidelines between a State Party and the State in which the State Party's facilities subject to inspection are located or the State through which the inspection team has to transit.

3. Each State Party shall designate the points of entry into (and departure from) its territory 1/ and shall supply the required information to the Technical Secretariat not later than 30 days after the Convention enters into force. 2/ These points of entry shall be such that the inspection team can reach any inspection site from at least one point of entry within the time frames set forth in ...

Each State Party may change the points of entry (and departure) by giving notice of such change to the Technical Secretariat, which shall become effective upon receipt of the notice, unless the Technical Secretariat considers that the change hampers the timely conduct of inspections and enters into consultation with the State Party to resolve the problem.

4. The Director-General shall select the members of an inspection team. 3/ Each inspection team shall consist of not less than [3] Inspectors and shall be [kept to a minimum necessary for the proper execution of its task] [not more than ... members]. No national of the requesting State Party, the State Party receiving the inspection, or another State Party cited by the requesting State Party as having been involved in the case to be inspected shall be a member of the inspection team.

5. (a) The State Party, which has been notified of the arrival of an inspection team, shall ensure its immediate entry into the territory and shall do everything in its power to ensure the safe conduct of the inspection team and their equipment and supplies, within the prescribed time frames of ... (hours), from their points of entry to the site(s) to be inspected and to their points of departure. 1/ It shall provide or arrange for the facilities 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. The State Party receiving the inspection shall be reimbursed for its expenses by the Organization (Details to be developed).

1/ In cases where the facilities of a State Party subject to inspection are located in the territory of another State or where the access from the point of entry to the facilities subject to inspection requires transit through the territory of another State, consideration will need to be given to the arrangements to be worked out concerning the rights and obligations under these guidelines between a State Party and the State in which the State Party's facilities subject to inspection are located or the State through which the inspection team has to transit.

2/ In order to ensure that the process of designation of Inspectors, experts and supporting staff 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.

3/ The detailed procedure for selection need to be addressed later.

(b) The representative(s) of the State Party receiving the inspection shall assist the inspection team in the exercise of its functions. They shall have the right to accompany the inspection team at all times, from the point of entry to the point of departure, provided that the inspection team is not thereby delayed or otherwise hindered in the exercise of its functions.

6. (a) There shall be no restriction by the State Party receiving the inspection on the inspection team bringing on to the inspection site such instruments and devices which the Technical Secretariat has determined to be necessary to fulfill the inspection requirements.

This includes, inter alia, equipment for discovering and preserving evidence related to the compliance with the Convention, equipment for recording 1/ and documenting the inspection, as well as for communication with the Technical Secretariat 2/ 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 standard equipment which may be needed for the purposes described above and regulations governing such equipment which shall be in accordance with these guidelines. 3/ 4/

(b) The equipment shall be in the property of the Technical Secretariat and be designated and approved by it. The Technical Secretariat shall, to the extent possible, select that equipment which is specifically designed for the specific kind of inspection required. Designated and approved equipment shall be specifically protected against unauthorized alteration.

(c) The State Party receiving the inspection shall have the right, without prejudice to the time frames set forth in Article IX, to inspect the equipment at the point of entry, i.e. to check the identity of the equipment. To facilitate such identification, the Technical Secretariat shall attach documents and devices to authenticate its designation and approval of the equipment. The State Party receiving the inspection may exclude equipment

1/ The possible use of photographic or imaging equipment requires further consideration.

2/ The issue of communication requires further consideration.

3/ Further consideration needs to be given to when and how such equipment will be agreed upon and to what extent they 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.

without the above-mentioned authentication documents and devices. Such equipment shall be kept at the point of entry until the inspection team leaves the respective country. 1/

(d) In cases where the inspection team finds it necessary to use equipment available on site not belonging to the Technical Secretariat and requests the State Party to enable the team to use such equipment, the State Party receiving the inspection shall comply with the request to the extent it can. 2/

7. Upon receipt of the notification of the request for inspection and pending the arrival of the inspection team at the inspection site, the State Party receiving the inspection shall ensure that no action is taken at the site to clean up, conceal or remove material of relevance, alter facility records or otherwise jeopardize the proper conduct of the inspection, while keeping possible disruption to the normal operation of the facility to a minimum. 3/

8. (a) The Technical Secretariat may, as far as feasible, dispatch an advance team to monitor how the obligations under paragraph 7 above are fulfilled and to prepare for the securing of the site, prior to the arrival of the remainder of the inspection team. The State Party receiving the inspection shall arrange for the earliest possible arrival of the advance team and shall assist it in its activities at the site. 3/

1/ A view was expressed that consideration should be given to the possibility for the State Party receiving the inspection to check, in exceptional circumstances, any piece of equipment to ascertain that its characteristics correspond to the attached documentation.

2/ A view was expressed that the possibility of agreed procedures should be considered in this regard.

3/ Two views have been expressed on specification of the site to be inspected:

(a) Specification of the site should be made at the time of notification of the inspection to the State Party receiving the inspection.

(b) For the purposes of minimizing the chances of the removal of relevant material and securing the site effectively, the site should be specified to the State Party receiving the inspection only upon arrival of the inspection team at the point of entry.

(b) In securing the site, 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 Party leaving or entering the site, in order to ensure that there is no removal or destruction of relevant material.

9. Upon arrival at the 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 nature of the facility, the activities carried out there, safety measures and administrative arrangements necessary for the inspection. [In the course of the briefing, the State Party receiving the inspection may indicate to the inspection team the equipment, documentation or areas that it considers sensitive and not related to the purpose of the inspection.] 1/ The time spent for the briefing shall be limited to the minimum necessary, [in any event not exceeding [3] hours], and shall not be counted within the duration of the inspection.

10. (a) 2/ The inspection team shall have the right to apply verification methods and procedures necessary for detecting and preserving evidence, appropriate to the specific types and cases of inspection. It shall have the right, inter alia, to:

- (i) have access to the areas of the site it deems relevant to the conduct of its mission, 3/
- (ii) interview facility personnel,
- (iii) have samples taken at its request and in its presence by representatives of the State Party receiving the inspection or take samples itself, if so agreed in advance with those representatives,

1/ Following the elaboration of the Annex on the Protection of Confidential Information, the deletion of this sentence needs to be considered.

2/ It has been suggested that the procedures for inspections of alleged use of chemical weapons should be considered separately and comprehensively on the basis of the proposed Annex to Article IX (documents CD/766 and CD/CW/WP.173). Experience gained through investigations by the Secretary-General of the United Nations of the possible use of chemical weapons may also be taken into account.

3/ A view was expressed that this point can be usefully considered only after solution of the pending issues in paragraph 12, page 194.

(iv) inspect documentation and records it deems relevant to the conduct of its mission, 1/ and

(v) have photographs taken at its request by representatives of the State Party receiving the inspection.

(b) 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 State Party receiving the inspection, but shall neither seek nor document information which is clearly not related thereto, unless the State Party receiving the inspection expressly requests it to do so. Any material collected and subsequently found not to be relevant shall not be retained. 2/

[(c) 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. 3/ It shall, to the extent it deems 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.] 4/

(d) The State Party receiving the inspection shall co-operate with the inspection team in clarifying anomalies arising in the course of the inspection.

11. Post-inspection procedures

(To be developed)

1/ A view was expressed that this point can be usefully considered only after solution of the pending issues in paragraph 12, page 194.

2/ It has been pointed out that the operational meaning of this paragraph would be largely contingent on the specificity of the request, which needs to be considered in the context of paragraph 4, page 193.

3/ 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.

4/ Following the elaboration of the Annex on the Protection of Confidential Information, the deletion of this sentence needs to be considered.

PROTOCOL ON INSPECTION PROCEDURES //

After further in-depth consideration, the Final IAI Inspection Procedures shall replace the Guidelines on the International Inspection Procedures included in the addendum to Appendix I of this report.

1. Definitions

"Inspector" means an individual designated by the Director-General of the Technical Secretariat according to the procedures set forth in part 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 set forth in part 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 designated 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 States 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.

APPENDIX II

"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.

"Inspection period" means the period of time from arrival of the inspection team at the inspection site until its departure from the inspection site, exclusive of the time spent on briefings before and after the verification activities.

"Point of entry" (POE) means the location(s) designated for the inspection team to arrive at 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.

1/ The structure of this Protocol and the ordering of the provisions contained in it are subject to further work.

PROTOCOL ON INSPECTION PROCEDURES 1/

After further in-depth consideration, the Protocol on Inspection Procedures shall replace the Guidelines on the International Inspectorate now included in the Addendum to Appendix I of this report.

I. Definitions

"Inspector" means an individual designated by the Director-General of the Technical Secretariat according to the procedures as set forth in part 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 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" (POE) 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.

1/ The structure of this Protocol and the ordering of the provisions contained in it are subject to further work.

"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 throughout 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] [visit]" 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.

"Approved Equipment" means the devices and/or instruments essential 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 (to be developed)

"Inspection Mandate" means (to be developed)

II. Designation of inspectors and inspection assistants

1. Verification activities in a State Party to the Convention shall only be performed by Inspectors and inspection assistants designated to this State in advance.
2. 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.
3. 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 after acknowledgement of receipt of the list declares its non-acceptance.

^{1/} It has been suggested that, in order to facilitate early implementation of the verification activities, States might, upon signature, 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.

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.

4. 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.

6. The number of Inspectors and inspection assistants accepted by and designated to a State Party must be sufficient to allow for availability and [random] ^{1/} selection 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 State Party whose facility is subject to inspection and the host State.

^{1/} The view was expressed that the pool of Inspectors should be sufficiently large to permit availability and rotation of Inspectors, but that it would not be feasible or necessary to designate such large numbers of Inspectors to each country that random selection could be ensured.

III. Privileges and Immunities 1/

1. Each State party shall, within 30 days after acknowledgement of receipt of the list of designated 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 documents 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 in the country of the inspection site 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 entire in-country period in the country in which an inspection site is located, and thereafter with respect to acts previously performed in the exercise of official functions as Inspector or inspection assistant. 2/

(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 rights and privileges of the inspectors and inspection assistants during transportation over and through non-inspected States Parties and non-State Parties needs further consideration.

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.

- (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 in which an inspection site is located, 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 Party or that of the host countries.

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 State Party or host country on whose territory an inspection is carried out 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 considers that there has been an abuse of privileges and immunities specified in this Protocol, consultations shall be held between the Party and 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 country 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 State Party or host country, 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 Technical Secretariat and request his 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/

6. The State Party on whose territory a facility of another State Party is to be inspected shall accord to the inspection team the privileges and immunities granted to Inspectors and inspection assistants for the effective exercise of their functions in this Protocol.

IV. General rules governing inspections

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.

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.

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 [or] [and avoid] affecting its safety. In particular, the inspection team shall not operate any facility or direct the staff of the facility to perform any operation.

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 perform them. The representative shall carry out the request [to the extent possible].

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/ The use of the terms "Technical Secretariat" and "Director General of the Technical Secretariat" needs to be reviewed throughout the Convention.

4. In the performance of their duties on the territory of a State Party, the members of the inspection team shall, if the State Party so requests, be accompanied by representatives of this State, but the inspection team must not thereby be delayed or otherwise hindered in the exercise of its functions. 1/ With the same proviso, at the inspection site, representatives of the inspected facility shall be included among the in-country escort if requested by the inspected State Party.

5. 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 [visit] [inspection] from the international inspectors promptly after the facility is declared. The purpose of the initial [visit] [inspection] 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 facilities, including on-site inspections and the use of continuous on-site instruments. 2/

6. 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 executed 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.

7. In cases where facilities of a State Party subject to inspection are located in the territory of another State 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.

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.

8. In cases where facilities of a State Party subject to inspection 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.

1/ The rights of host State representatives need to be further considered.

2/ The consistency of this provision with all verification provisions in the Convention needs further consideration.

V. Pre-inspection arrangements

1. [Unless otherwise provided for in this Convention] the (Director General of the) Technical Secretariat shall notify the State Party of its intention to carry out an inspection [[12] [24] [48] 1/ hours prior to the planned arrival of the inspection team [at the point of entry] [at the facility/site to be inspected]] [within the prescribed timeframes where specified].

2. 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. Notifications made by the Technical Secretariat shall include the following information:

- the point of entry
- 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 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. Initial [inspections] [visits] 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 paragraph 2 above also include the specification of the inspection site.

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.

5. 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. 2/ These points of entry shall be such that

1/ 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.

2/ In order to ensure that the process of designation of Inspectors, experts and supporting staff 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.

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 Parties by the Technical Secretariat.

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.

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.

6. The 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 their equipment and supplies, from their points of entry to the site(s) to be inspected and to their points of exit. It shall provide or arrange for the facilities 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. The State receiving the inspection shall be reimbursed for its expenses by the Organization (details to be developed).

7. In accordance with paragraphs 7 and 8 of Part IV of this Protocol, the inspected 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.

8. (a) 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 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 Parties and the Technical Secretariat as the basis for such diplomatic clearance.

(b) When a non-scheduled aircraft is used, the Technical Secretariat shall provide the inspected 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 country in which the inspection site is located to the

^{1/} Further study is required on whether a longer or shorter time period is desirable or feasible.

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 own 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."

(c) 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 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.

(d) The inspected Party shall provide parking, security protection, servicing and fuel as required for the airplane of the inspection team at the point of entry when such airplane is 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/

[9. 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.]

VI. The conduct of inspections

1. Upon arrival at the 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 arrangements necessary for the inspection. The time spent for the briefing shall be limited to the minimum necessary, in any event not exceeding 3 hours, and shall not be counted within the duration of the inspection.

2. In carrying out their activities, Inspectors and inspection assistants shall observe safety regulations, established at the inspection site, 2/ including those for the protection of controlled environments within a facility and for personal safety. Individual protective clothing and

1/ The Technical Secretariat will need to negotiate arrangements for costs of such services.

2/ 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).

equipment shall normally be provided by the Technical Secretariat. 1/ 2/ [For inspections pursuant to Article IX of the Convention, at the inspected Party's request, the clothing and equipment shall be left at the site. The inspected Party shall reimburse the Technical Secretariat for the cost of any clothing and equipment left by it.]

3. Inspectors shall have the right throughout the period of inspection to communications with the Headquarters of the Technical Secretariat. For this purpose they [may use their own equipment and/or] may request that the inspected Party provide them with access to other telecommunications. 3/ The inspection team shall have the right to use its own 4/ 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.

4. 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 facility inspected. The items to be inspected will be chosen by the inspectors;
- interview any facility personnel in the presence of representatives of the State Party receiving the inspection [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 Party shall furnish such information upon request. The in-country escort 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;]
- have samples taken at its request and in its presence by representatives of the State Party receiving the inspection or take samples itself, if so agreed in advance with those representatives;
- perform on-site analysis of samples or request that appropriate analysis be performed in their presence;

1/ 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 that Party.

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.

3/ The issue of communications requires further consideration.

4/ See footnote 2 above.

- transfer, if necessary, samples for analysis off-site at a laboratory designated by the Organization in accordance with agreed procedures;
- afford the opportunity to the State Party receiving the inspection to be present when samples are analysed;
- ensure that samples transported, stored and processed are not tampered with;
- inspect documentation and records it deems relevant to the conduct of its mission;
- have photographs taken at its request by representatives of the State Party receiving the inspection. Photographic cameras shall be capable of producing instant development photographic prints. Inspectors shall allow the inspected Party, upon its request, to take the pictures desired by the Inspectors. Two photographs will be taken of each item requested by the Inspectors. The inspected Party and the Inspectors shall each receive one.

5. The State Party receiving the inspection shall:

- have the right to accompany the International Inspectors at all times during the inspection and observe all their verification activities;
- have the right to retain portions of all samples taken and be present when samples are analysed on-site; 1/
- 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. 2/

6. Inspectors shall have the right to request clarifications in connection with ambiguities that arise during an inspection. Such request shall be made promptly through the in-country escort. The in-country escort 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 the question, relevant clarifications and a copy of any photographs taken in the inspection report.

1/ The feasibility of retaining portions of all samples taken should be further discussed.

2/ The question has to be considered when the inspected State Party should be provided with an opportunity to comment on the inspection report drafted upon conclusion of the inspection.

The text of the preceding pages 137-148 reflects the results of the work undertaken on the Protocol in the course of this session. With the aim of facilitating further consideration of the issues involved, it was accepted to include the text of the following pages which have not been considered this session.

[7. Periods of inspection may be extended by agreement with the in-country escort, by no more than (xx hours). Post-inspection procedures shall be completed by the inspection team at the inspection site within (xx hours)]. 1/

[8. An inspection team conducting routine inspections pursuant to Articles IV, V and VI shall include no more than (xx) Inspectors and (xx) inspection assistants.] 2/

[9. At least two Inspectors on each team must speak the language of the Convention which the inspected Party has agreed to work in. 3/ 4/ Each inspection team shall operate under the direction of a team leader and deputy team leader. Upon arrival at the inspection site, the inspection team may divide itself into subgroups consisting of no fewer than two Inspectors each.]

[10. 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.] 5/

1/ 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.

2/ 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.

3/ 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.

4/ The Technical Secretariat should also make arrangements for interpreters for national languages of States Parties, to the extent possible, to facilitate inspections.

5/ The view was expressed that this paragraph could not apply to routine inspections.

VII. Inspection equipment and continuous monitoring by instruments

1. There shall be no restriction by the State Party receiving the inspection on the inspection team bringing on to the inspection site such instruments and devices which the Technical Secretariat has determined to be necessary to fulfil the inspection requirements.

This includes, inter alia, equipment for discovering and preserving evidence related to the compliance with the Convention, equipment for recording 1/ and documenting the inspection, as well as for communication with the Technical Secretariat 2/ 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 standard equipment which may be needed for the purposes described above and regulations governing such equipment which shall be in accordance with this Protocol. 3/ 4/

2. The equipment shall be in the property of the Technical Secretariat and be designated and approved by it. The Technical Secretariat shall, to the extent possible, select that equipment which is specifically designed for the specific kind of inspection required. Designated and approved equipment shall be specifically protected against unauthorized alteration.

3. The State Party receiving the inspection shall have the right, without prejudice to the time frames set forth in part V to inspect the equipment at the point of entry, i.e. to check the identity of the equipment. To facilitate such identification, the Technical Secretariat shall attach documents and devices to authenticate its designation and approval of the equipment. The State Party receiving the inspection may exclude equipment without the above-mentioned authentication documents and devices. Such equipment shall be kept at the point of entry until the inspection team leaves the respective country. 5/

1/ The possible use of photographic or imaging equipment requires further consideration.

2/ The issue of communication requires further consideration.

3/ Further consideration needs to be given to when and how such equipment will be agreed and to what extent they 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.

5/ A view was expressed that consideration should be given to the possibility for the State Party receiving the inspection to check, in exceptional circumstances, any piece of equipment to ascertain that its characteristics correspond to the attached documentation.

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 State Party to enable the team to use such equipment, the State Party receiving the inspection shall comply with the request to the extent it can. ^{1/}

5. Where applicable, the Technical Secretariat shall have the right to use continuing monitoring systems and seals as set forth in the Convention and in facility agreements between States Parties and the Technical Secretariat. It shall have the right to carry out necessary engineering surveys, construction, emplacement, maintenance, repair, replacement and removal of such systems and seals. In such cases the State Party receiving an inspection shall, at the request of and at the expense of the Technical Secretariat, provide the necessary preparation and support for the establishment of continuous monitoring systems.

6. The inspection team shall verify during each inspection that the monitoring system functions correctly and that emplaced seals have not been tampered with.

VIII. Inspection Report

1. Within ... days after the inspection, Inspectors shall submit to the Technical Secretariat a report ^{2/} 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. Relevant regulations, governing the protection of confidential information, shall be observed. The report shall also provide information as to the manner in which the State Party inspected co-operated with the inspection team. Different views held by Inspectors may be attached to the report.

2. The report shall be kept confidential. The National Authority of the State Party shall be informed of the findings of the report. Any written comments, which the State Party may immediately make on these findings shall be annexed to it. Immediately after receiving the report the Technical Secretariat shall transmit a copy of it to the State Party receiving the inspection.

3. Should the report contain uncertainties, or should co-operation between the National Authority and the Inspectors not measure up to the standard required, 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 Technical Secretariat shall inform the Executive Council without delay.

^{1/} A view was expressed that the possibility of agreed procedures should be considered in this regard.

^{2/} 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.

IX. Challenge Inspections conducted pursuant to Article IX

1. (a) Inspections under Article IX shall only be performed by Inspectors especially designated for this function. In order to designate Inspectors for inspections under Article IX, the Director General shall, by selecting Inspectors from among the full-time Inspectors for routine inspection activities, establish a list of proposed Inspectors. It shall comprise a sufficiently large pool of International Inspectors having the necessary qualification, experience, skill and training, to allow for rotation and availability of Inspectors.

(b) The designation of Inspectors shall follow the procedures provided for under Chapter I of this Protocol.

2. The Director General shall select the members of an inspection team. 1/ 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]. No national of the requesting State Party, the State Party receiving the inspection, or another State Party cited by the requesting State Party as having been involved in the case to be inspected shall be a member of the inspection team.

[3. If so requested by the State Party requesting the challenge inspection, the site to be inspected may only be specified upon arrival of the inspection team at the point of entry.]

4. Upon receipt of the notification of the request for inspection [and upon the specification of the site to be inspected] and pending the arrival of the inspection team at the inspection site, the State Party receiving the inspection shall ensure that no action is taken at the site to clean up, conceal or remove material of relevance, alter facility records or otherwise jeopardize the proper conduct of the inspection, while keeping possible disruption to the normal operation of the facility to a minimum.

5. (a) The Technical Secretariat may, as far as feasible, dispatch an advance team to monitor how the obligations under paragraph 7 above are fulfilled and to prepare for the securing of the site, prior to the arrival of the remainder of the inspection team. The State Party receiving the inspection shall arrange for the earliest possible arrival of the advance team and shall assist it in its activities at the site.

(b) In securing the site, 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 Party leaving or entering the site, in order to ensure that there is no removal or destruction of relevant material.

1/ The detailed procedure for selection needs to be addressed later.

6. In the course of the pre-inspection briefing, the State Party receiving the inspection 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 the proposals made to the extent they deem them adequate for the conduct of their mission.

7. The Inspectors shall have the [unimpeded] access to the site they deem necessary for the conduct of their mission.

8. 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 State Party receiving the inspection but shall neither seek nor document information which is clearly not related thereto, unless the State Party receiving the inspection expressly requests it to do so. Any material collected and subsequently found not to be relevant shall not be retained. 1/

9. 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. 2/ It shall, to the extent it deems 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.

10. Challenge inspections shall not last longer than ...

11. Within ... days after the inspection the report by the Inspectors shall be submitted to the Head of the Technical Secretariat. He shall promptly transmit the report to the requesting State, the requested State and to the Executive Council.

1/ It has been pointed out that the operational meaning of this paragraph would be largely contingent on the specificity of the request, which needs to be considered in the context of paragraph 4, p. 143.

2/ 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.

Also with the aim of facilitating further consideration of the issues involved one delegation submitted the following material related to parts VII - IX above for equal consideration in conjunction with them

Section VII, paragraph 1, the second paragraph should also include the following equipment in the inter alia equipment: "Temporary and permanent monitoring equipment and seals for emplacement, and equipment for discovering and preserving information".

Section VII, paragraph 3, should also include the following: "Equipment and supplies shall be examined by the in-country escort in the presence of the inspection team members to ascertain to the satisfaction of the inspected party that the equipment and supplies cannot perform functions irrelevant to the inspection requirements of the Convention. If it is established upon examination that the equipment or supplies are unconnected with these inspection requirements, then they shall not be cleared for use and shall be impounded at the point of entry until the departure of the inspection team from the country where the inspection is conducted. 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 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."

Section VII, paragraph 6 should be more specific regarding what a State Party shall be responsible for providing for monitoring systems. Language suggested follows:

"In support of the establishment of continuous monitoring systems for routine verification activities, the inspected State Party shall, at the request of and at the expense of the Technical Secretariat, provide the following:

- (1) All necessary utilities for the construction and operation of the monitoring systems, such as electrical power and heating;
- (2) Basic construction materials;
- (3) Any site preparation necessary to accommodate the installation of continuously operating systems for monitoring;
- (4) Transportation for necessary installation tools, materials and equipment from the entry point to the inspection site."

An additional paragraph should be added after paragraph 6, which states that:

"Seals placed by Inspectors on facilities and monitoring devices shall only be removed in the presence of Inspectors except in extraordinary

circumstances. If for some reason a seal must be removed, the Party shall immediately notify the Technical Secretariat and Inspectors will return as soon as possible to validate the inventory and replace the seal."

After section VII, a new section VIII on collection, handling and analysis of samples should be added. Proposed language follows:

VIII. Collection, handling and analysis of samples

A. In cases of alleged use of chemical weapons, Inspectors have the right to collect samples themselves. The inspected Party(ies) shall assist in sample collection upon request. In all other inspections, except as specified in ... representatives of the inspected Party shall take samples at the request of the Inspectors and in the presence of the Inspectors. Samples shall be taken pursuant to procedures set forth in articles, annexes and agreements between the Technical Secretariat and States Parties.

B. Where possible, Inspectors shall perform on-site analysis of samples using approved equipment brought by the inspection team.

C. The inspected Party has the right to be present during sample analysis and to retain duplicates of samples.

D. Inspectors may transfer, if necessary, samples for analysis off-site at laboratories designated by the Technical Secretariat. 1/ The inspection team shall be responsible for the security and preservation of the samples, and for the maintenance of a detailed history chronicling the chain of custody of the samples, until the samples are delivered to the designated analytical laboratories, at which time responsibility will pass to the Technical Secretariat.

E. The Technical Secretariat shall:

(a) select and certify the laboratories designated to perform different types of analysis;

(b) 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

(c) select from among the designated laboratories those which shall perform analytical or other functions in relation to specific investigations.

F. Samples shall be analysed in at least two designated laboratories. The Technical Secretariat shall oversee the expeditious processing of the analysis. The samples shall be accounted for and any unused samples 2/ or portions thereof shall be returned to the Technical Secretariat.

1/ Transportation of toxic samples and existing international transportation regulations will need to be addressed.

2/ Consideration should be given to the retention of unused samples taken during challenge inspection for which the findings were inconclusive.

G. 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.

For the current section VIII on inspection report, we suggest adding a new first paragraph to read as follows:

"1. During the post-inspection procedures, the inspection team shall provide the in-country escort with a list of any samples to be taken off-site by the inspection team for analysis".

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,

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

<u>Year</u>	<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>
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:

$$\begin{aligned} &\text{Production capacity (tons/year)} = \\ &= \frac{\text{des. cap.}}{\text{pl. op. hours}} \times \text{op. factor} \times \text{no. of units} \end{aligned}$$

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.

REPORT ON INSTRUMENTAL MONITORING OF NON-PRODUCTION IN FACILITIES
DECLARED UNDER ANNEX 2 TO ARTICLE VI

During the 1988 session, consultations were held on instrumental monitoring of non-production in facilities declared under the Annex to Article VI 2. This report summarizes the results of the consultations, as seen by the rapporteur, Dr. Rautio (Finland).

It was suggested that it is preferable to have only a few general paragraphs in the Convention regarding instrumental monitoring. Detailed provisions for a particular facility will be included in the facility attachment tailored for each facility according to the guidelines presented in the Model Agreement.

It was also suggested that depending on a number of factors laid out in CD/831 and possibly the preference of the facility, the facility may be:

- (i) monitored with on-site instruments and visits by Inspectors; or
- (ii) monitored only by visits of Inspectors, but at a higher frequency than if there were also monitoring by on-site instruments.

Inspectors and instrumental monitoring should be considered complementary. Instruments cannot replace Inspectors but they could reduce the need for inspection. In cases where instrumental monitoring is not feasible or desirable, the number of inspections might need to be higher than if instruments were used. Instrumental monitoring would be needed in cases where continuous monitoring is required.

Specific verification objectives

- (i) Facilities declared under Annex to Article VI 2 are not used to produce any chemical listed in Schedule 1.
- (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.
- (iii) The chemicals listed in Schedule 2 are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

(i) Monitoring the non-presence of chemicals in Schedule 1

The objective would necessitate either continuously-operating chemical sensors or sampling and subsequent analysis of the samples, preferably on-site. Off-line analysis of the samples during an on-site inspection could be adequate. If all production at facilities producing chemicals in Schedule 2 were declared, then detection of any undeclared chemical would indicate an anomaly.

Infra-red spectrometers are already available for in-line process monitoring. Their potential and reliability for verification purposes will have to be tested carefully. Whether it is possible to establish sets of common spectrometric properties for various groups of chemicals in Schedule 1 remains to be determined, for example.

For the time being, on-line instruments such as process chromatographs and mass spectrometers requiring sample transfer lines from the process stream to the instrument are too prone to malfunctions without frequent servicing.

A prototype of a sampling device has been demonstrated for sampling at programmed intervals of microgram quantities that can be analysed later by a mobile mass spectrometer during on-site inspections. Further development of the sampling device is necessary.

Monitoring of a particular facility for the non-presence of chemicals listed in Schedule 1 could be restricted to those corresponding to chemicals listed in Schedule 2 being produced by the facility.

(ii) Monitoring production quantities

The least intrusive way of verifying the quantities of declared chemicals that are produced would be to measure production volumes and to make a qualitative test of the chemical produced. Indirect methods for production control by recording temperature/pressure and time/temperature profiles were considered more intrusive.

Sometimes it may be sufficient to monitor "simple" physical parameters not directly related to the chemical structure of the compounds (e.g. energy consumption). Instruments required for measuring physical parameters are available. The most advantageous way of measuring the volume of production should be considered individually for each facility.

(iii) Monitoring non-diversion

Diversion of chemicals in Schedule 2 by further processing on-site to chemicals in Schedule 1 could be detected with composition-indicating instruments by monitoring what goes in and out of product storage tanks.

Confidentiality problems connected with instrumental monitoring

It was pointed out that successful, non-intrusive instrumental monitoring might in some cases necessitate modifications of the facility. On the other hand, it was noted that "sensitive" parameters such as temperature and pressure might not need to be monitored. On-site analyses in the presence of facility personnel of the samples collected by the automatic sampling devices and destruction of the analytical samples after the analysis would facilitate keeping the confidential information within the facility. The samples could be analysed either for the non-presence of chemicals in Schedule 1 or for the presence of declared chemicals while not going into the details of the production process.

It was also suggested that data generated by instruments could be stored on-site and retrieved by inspectors during on-site visits so that no direct data produced by the sensors would need to be transmitted to the Technical Secretariat. What would need to be transmitted, however, is information (yes/no answer) that the sensors are working properly. This could be done via telephone lines, which would keep the cost low.

Storage of data on-site would allow easy access for the Inspectors to the data and the operators would have higher level of confidence in the protection of data than if the data were transmitted off-site. New techniques such as write-only lasers are under way for reliable data storage.

There should be fewer confidentiality problems in instrumental monitoring of dedicated facilities producing chemicals listed in Schedule 2 because there is less confidential information than in multipurpose facilities and it is easy to verify that the product type is not changed. Probably very few dedicated plants producing chemicals in Schedule 2 exist.

Most of the confidentiality problems are connected with the multipurpose facilities. The production of a variety of chemicals would increase the amount of data needed for verification. *Inter alia*, these facilities would have to prove the absence of chemicals listed in Schedule 2 when these are not being produced.

Ownership of the instrumentation used for verification

It was suggested that use of instruments already existing at the facility for process control should be maximized, but in a non-intrusive way. The possibility of using facility-owned instrumentation would depend on instruments available, the lay-out of the facility and of the reliability of the instruments installed. Therefore their use would have to be decided individually for each plant.

If facility-owned instruments were to be used, personnel of the facility would be in charge of their service, maintenance and calibration. This would necessitate the right for the Inspectors to check the calibration and perhaps to install additional, parallel instruments, owned by the International Organization, (e.g. flow or loadmeters) for redundancy.

Establishment of a group of international technical experts

It was suggested that it would be advantageous to establish an informal international group of technical experts in the framework of the Conference already at this stage of the negotiations to facilitate exchange of information on efforts under way in a number of countries on development of verification techniques, procedures, and devices. The technical experts group might also be useful in co-ordinating national efforts, including national inspection trials to assure that as many open questions as possible could be answered as a result of the trials. Results from the national inspections could also be evaluated by the technical body.

The first part of the report discusses the general situation in the field of nuclear energy and the progress made in the various countries. It also mentions the need for international cooperation in this field.

The second part of the report deals with the technical aspects of nuclear energy, including the design of reactors, the production of fuel, and the disposal of waste.

The third part of the report discusses the economic and social aspects of nuclear energy, including the cost of production, the impact on the environment, and the need for public information.

The fourth part of the report discusses the international situation in the field of nuclear energy, including the role of the International Atomic Energy Agency (IAEA) and the need for international agreements.

The fifth part of the report discusses the future of nuclear energy, including the need for research and development, the development of new reactor designs, and the need for international cooperation.

The sixth part of the report discusses the need for public information and education in the field of nuclear energy, including the need for accurate information and the need to dispel myths and rumors.

The seventh part of the report discusses the need for international cooperation in the field of nuclear energy, including the need for international agreements and the need for international organizations.

The eighth part of the report discusses the need for research and development in the field of nuclear energy, including the need for basic research and the need for applied research.

The ninth part of the report discusses the need for international cooperation in the field of nuclear energy, including the need for international agreements and the need for international organizations.

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. */

In Article VIII, Section C, paragraph 3, it is stated that the Director-General of the Technical Assistance Board, in consultation with States Parties, appoint members of the Executive Council who shall serve in their individual capacity. The Director-General may also, in consultation with members of the Board, or appropriate, establish temporary working groups of qualified experts to provide recommendations on specific issues.

*/ 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.

SCIENTIFIC ADVISORY BOARD

During the 1989 session, Working Group 3 undertook work on the Scientific Advisory Board. The following has emerged as a basis for further consideration of the issue.

1. In Article VIII, Section B (b), paragraph 3, insert revised subparagraph viii, page 36:

(viii) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention; including a Scientific Advisory Board to provide independent advice as necessary to the Director-General of the Technical Secretariat in areas of science and technology relevant to the Convention and, when requested, to the Conference of States Parties and to the Executive Council.

2. In Article VIII, Section D, add paragraph 5 bis, page 39:

5 bis. The Director-General of the Technical Secretariat shall, in consultation with States Parties, appoint members of the Scientific Advisory Board who shall serve in their individual capacity. The Director General may also, in consultation with members of the Board, as appropriate, establish temporary working groups of scientific experts to provide recommendations on specific issues.

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

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.

ON-SITE INSPECTION ON CHALLENGE

This paper represents the state of affairs of work done on the issue of On-Site Inspection on Challenge, as seen by the Chairman of the Ad Hoc Committee for the 1987 session and by the Chairman of Group C for the 1988 session. Nothing contained therein constitutes any agreement and therefore does not bind any delegation. The paper is presented with the aim of facilitating for delegations to analyse the situation and to arrive at common positions in the future work of the Committee.

Under Part I, (paras. 1-13) material is found on the initial process for an on-site inspection on challenge, up until the submission of the report by the inspectors, as put together by the Chairman of the Ad Hoc Committee for the 1987 session. Under Part II (paras. 14-18), material is found on the process after the submission of the report, as put together by the Chairman of Group C for the 1988 session.

PART I

1. Each State Party has the right at any time to request an on-site inspection of any site under the jurisdiction or control 1/ of a State Party, anywhere, in order to clarify doubts about compliance with the provisions of the Convention. A requesting State is under the obligation to keep the request within the objectives of the Convention.
2. Throughout the inspection the requested State has the right and is under the obligation to demonstrate its compliance with the Convention.
3. The on-site inspection on challenge shall be carried out in accordance with the request.

(The initiation of a challenge inspection)

4. The request shall be submitted to the Head of the Technical Secretariat. 2/ It shall as precisely as possible specify the site to be inspected and the matters on which reassurance is required, including the circumstances and nature of the suspected non-compliance, as well as indicate the relevant provision(s) of the Convention, about which doubts of compliance have arisen.
5. The Head of the Technical Secretariat shall immediately notify the State Party to be inspected, and inform the members of the Executive Council about the request.

1/ The question of "jurisdiction or control" spans over many parts of the Convention. It is under continuous discussion and the exact formulations remain to be agreed upon.

2/ It has been pointed out that there is a need to discuss ways and means to prevent misuse of such requests. One suggested approach is to transmit the request through a Fact-finding Panel.

6. A team of inspectors shall be dispatched as soon as possible and arrive at the site to be inspected not later than ... hours 1/ after the request.
7. The requested State is obliged to admit the team of inspectors and representative(s) of the requesting State into the country and assist them so that they can arrive at the site on time. 2/
8. The inspectors shall at the arrival be permitted to secure the site in a way they deem necessary to ensure that no material of relevance for the inspection is removed from the site.
9. Access to the site for the inspection team shall be provided not later than ... hours after the request.

(The conduct of challenge inspection)

10. The team of inspectors shall conduct the requested on-site inspection with the purpose of establishing relevant facts.
11. The inspectors shall have the access to the site they deem necessary for the conduct of their mission, within the limits of the request. They shall conduct the inspection in the least intrusive manner possible to accomplish their task. The requested State shall facilitate the task of the inspectors.

The inspectors shall consult with the requested State which in keeping with its right and obligation may propose ways and means for the actual conduct of the inspection. The requested State may also make proposals for the protection of sensitive equipment or information, not related to chemical weapons. The inspectors shall consider the proposals made to the extent they deem them adequate for the conduct of their mission.

The inspectors shall conclude the inspection as soon as possible and not later than ... after the commencement of the inspection, and return to the Headquarter.

12. In the exceptional case the requested State proposes arrangements to demonstrate compliance, alternative to a full and comprehensive access, it shall make every effort through consultations with the requesting State to reach agreement on the modalities for establishing the facts and thereby clarifying the doubts.

1/ A time span of 24-48 hours from the request to the arrival has been discussed.

2/ Situations could be envisaged, i.e. when the site to be inspected is not on the territory of the requested State Party. Such cases could however be considered in the context of questions related to jurisdiction.

If agreement is reached within ... hours after the request, the inspection team shall carry out its task in accordance with the agreement. If no agreement is reached within ... hours after the request [the inspection shall be carried out in accordance with points 10 and 11 above.] [the inspection team shall report on the matter to the Executive Council which, within ... hours, shall ...].

(The report)

13. The team of inspectors shall submit a report to the Head of the Technical Secretariat as soon as possible and not later than ... days after the conclusion of the inspection.

The report shall be strictly factual and only contain relevant information, and may within these parameters, include information as to the manner in which the State Party inspected co-operated with the inspection team. Different views held by inspectors shall be attached to the report.

The Head of the Technical Secretariat shall promptly transmit the report to the requesting State, the requested State and to the Executive Council.

PART II

(The process after the submission of the report)

14. The requesting State shall promptly notify the members of the Executive Council, through the Director-General of the Technical Secretariat, of its assessment on the result of the inspection [and, to the extent it deems appropriate, of the course of action it intends to take under the Convention].

15. The Director-General of the Technical Secretariat shall provide to States Parties the inspection report, 1/ the assessment of the requesting State, and the views of the requested State and of other States Parties which may be conveyed to him for that purpose.

16. When requested by any State Party, the Executive Council shall meet to assess the situation, taking into account the report, the assessment by the requesting State and the views of the requested State and of other States Parties. 2/

1/ The question of the stages of the inspection report and the decision by which some of the contents of the final report is provided to all parties needs further consideration.

2/ A view was expressed that this paragraph is superfluous because the procedures for meetings of the Executive Council are to be set forth under the relevant provisions in Article VIII and possibly in Article IX.

17.1/ The Executive Council shall, as it deems necessary, consider [and recommend] [and decide on] [whether there has been a violation of the Convention and] appropriate further actions to clarify or remedy the situation. [Such further actions may, inter alia, be designed to induce the requested State to bring itself into conformity with the Convention or to address the misuse or abuse of requests by the requesting State].

18. The Executive Council shall [provide any report it may make] [report] on its consideration of the matter to States Parties. [If a breach of the Convention remains unrectified, the Executive Council shall refer the matter to the Conference of the States Parties, which should decide on sanctions including the withdrawal of rights and privileges]. 2/ 3/ [The [Executive Council or the] [Conference of the States Parties] shall, where appropriate, bring the matter to the attention of the Security Council of the United Nations].

1/ The question of the procedure and decision-making of the Executive Council in connection with this paragraph needs to be considered.

2/ The question of possible sanctions including the withdrawal of rights and privileges needs further careful examination in the context not only of challenge inspections but also of routine inspections and other elements of the Convention.

3/ A view was expressed that the possibility of the withdrawal of rights and privileges of the requesting State Party which has abused or misused the request needs also to be considered.

OUTCOME OF THE OPEN-ENDED CONSULTATIONS ON
ARTICLE IX, PART 2

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). These consultations were based on the text contained in CD/881, Appendix II, pages 141-144.

This paper contains the outcome of these consultations. The paper is presented with the aim of furthering the process of elaboration of Article IX.

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, */**/ 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 ***/ 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.

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

*/ A view was expressed that the request should be channelled through a Fact-finding Panel.

**/ It has been pointed out that there is a need to discuss ways and means to prevent misuse of such requests.

***/ Possible specification of the site in two steps to be further discussed.

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.

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 / 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.

6. The Director-General of the Technical Secretariat shall promptly transmit the report of the inspection team, which shall be strictly factual (and contain, if necessary, individual views of inspectors), to the requesting State, to the requested State and to the Executive Council (and to all States Parties; further consideration is needed as to how much of the report is to be provided to all States Parties in view of the sensitivity of information possibly contained therein). He shall further transmit to the Executive Council the assessment/views of the requesting State and then provide to all States Parties this assessment/views, the views of the requested State and of other States Parties which may be conveyed to him for that purpose. When requested by any State Party, the Executive Council/Conference of the States Parties shall meet to review the situation and consider appropriate further action to redress the situation aimed at ensuring that the Convention is being complied with.

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 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 Depository 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.

Article 11: Amendments

1. Any State Party may propose amendments to the Convention at any time.

2. The amendments may be made by any State Party... (text is very faint and difficult to read)

3. Any amendment to the Convention shall be adopted by a majority of two-thirds of the States Parties... (text is very faint and difficult to read)

4. Amendments shall enter into force for States Parties ratifying or acceding to the Convention... (text is very faint and difficult to read)

5. The Secretary-General shall be responsible for the administration of the Convention... (text is very faint and difficult to read)

6. The Convention shall be open for signature by all States... (text is very faint and difficult to read)

7. The Convention shall be subject to ratification by States Parties... (text is very faint and difficult to read)

8. The Convention shall be subject to accession by States Parties... (text is very faint and difficult to read)

9. The Convention shall be subject to withdrawal by States Parties... (text is very faint and difficult to read)

Articles XII, XIV and XX of the Preliminary Structure of a
Convention on Chemical Weapons

During the 1988 session, the Chairman of the Ad Hoc Committee initiated and carried out open-ended consultations, as well as private consultations with interested delegations, on the final provisions of the Convention.

The following discussion paper constitutes an attempt by the Chairman of the Ad Hoc Committee for the 1988 session to summarize the views expressed during these consultations. The paper is presented with the aim of facilitating further consideration of Articles XII, XIV and XX. Nothing contained therein constitutes any agreement and therefore does not in any way bind any delegation.

Together with existing as well as future proposals and documents on these Articles, the discussion paper will be used for further work on these Articles.

Article XII: Relation to other international agreements

Commentary

(a) Views were expressed that Article XII is not needed. In this case the relationship between the CW Convention and other international agreements would be regulated by general rules of international law, as well as by the rules of the Vienna Convention on the Law of Treaties.

(b) Some delegations are in favour of a reference to specific international agreements, i.e. the Geneva Protocol of 1925 and BW Convention.

(c) It has been suggested that a general reference to other international agreements be included.

(d) It might be possible to combine the approaches reflected in paragraphs (b) and (c) above thus having references both to specific and other unnamed international agreements.

Possible wording for Article XII

1. None.

2. 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

3. 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.

Article XIV: Duration, Withdrawal

Commentary

There seems to be a common understanding that this Convention should be of unlimited duration.

A wide range of opinions was expressed in regard to possible withdrawal of States Parties from the Convention and the procedures thereof.

(a) Views were expressed that the right of withdrawal should not be provided.

(b) Some delegations supported the idea that the right of withdrawal should not be exercised within a fixed, comparatively long period of time.

(c) Several delegations held the view that the withdrawal should depend on certain extraordinary circumstances. In the opinion of some delegations such circumstances might be differentiated according to their urgency and consequently different periods for withdrawal be granted. ^{1/} In this context a view was expressed that the Organization should be notified of the intention to withdraw and take appropriate steps within its competence to remedy the situation and prevent such a withdrawal.

(d) The opposite view was based on the premise that the right of withdrawal should be granted and be exercised in a very short period of time with few formalities, if any.

(e) The view was expressed that there should be no reference to the right of withdrawal in the CW Convention.

(f) One delegation proposed that this Article should deal only with the question of duration, which would depend on the destruction of all chemical weapons by States Parties.

Possible wording for Article XIV

1. This Convention should be of unlimited duration.
2. (a) States Parties shall not withdraw from this Convention;

- or alternatively -

(b) States Parties shall not withdraw from this Convention within the period of destruction of chemical weapons and chemical weapons production facilities;

- or alternatively -

^{1/} No specific suggestions in regard of the said periods have been made.

(c) States Parties shall not withdraw from this Convention within ...
(other agreed period of time);

- or alternatively -

(d) Any State Party shall, in exercising its national sovereignty, have the right to withdraw from this Convention if, in the opinion of the withdrawing State there have arisen extraordinary circumstances connected with the content of this Convention which affect its supreme interests;

- or alternatively -

(e) Any State Party may withdraw from this Convention at any time;

- or alternatively -

(f) None.

3. (a) In exercising their right of withdrawal subject to paragraph 2 (b), (c), (d), (e), (f) above, States Parties shall give notice to the Depositary, the Security Council of the United Nations and the Executive Council of the Organization. Such notice shall include a statement of the reasons for the decision to withdraw.

(b) The Executive Council of the Organization shall promptly investigate and assess the reasons for the decision to withdraw and take appropriate measures within its competence to remedy the situation, including, *inter alia*, convening of a special session of the Conference of the States Parties. 1/

4. The withdrawal shall take effect ... [agreed period(s) of time] after the deposit of the notification by the State Party concerned. 2/

- or, as an alternative to paragraphs 3 and 4 above -

In exercising its right of withdrawal subject to paragraph 2 (d) above, a State Party shall give notice to all other Parties to the Convention, to the Depositary, and to the Security Council of the United Nations three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

1/ It is to be discussed whether special provisions regarding the competence of the Executive Council and Conference of the States Parties in cases of purported withdrawal are needed and if so, what would be their content and place in the Convention.

2/ The question of possibly setting several periods for the purpose of different circumstances relating to withdrawal, instead of a single period, requires further consideration.

5. (a) The withdrawal of a State Party from this Convention shall in no way affect the duty of [States Parties] [this State Party] to continue fulfilling the obligations assumed under any relevant rule of international law, particularly the Geneva Protocol of 17 June 1925. ^{1/}

(b) A State Party shall not, by reason of its withdrawal from this Convention, be discharged from its financial [and] [or such] other obligations (not being incompatible with the supreme interests which induced it to withdraw) which accrued while it was a Party to the Convention.

- or, as an alternative to paragraphs 2-5 above -

Every 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 Parties to the Convention, to the Depositary, and to the Security Council of the United Nations three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

- or alternatively -

Article XIV: Duration

This Convention shall be of a permanent nature and shall remain in force indefinitely, but obligations deriving from the provisions of this Convention will cease, if after 90 days of the end of the period of destruction as stipulated in Article [...], the Conference of the States Parties is not in a position to declare that all chemical weapons have been destroyed and are subsequently banned from all States Parties.

Article XX: Languages, authentic texts, depositary, registration

Commentary

(a) There is a general agreement that the Secretary-General of the United Nations should be designated as the Depositary.

(b) The view was expressed that all functions of the Depositary should be dealt with in one place.

(c) It is also to be further discussed whether to place relevant provisions within the framework of Articles XV, XX or a separate article might be needed.

(d) Provisions for languages, authentic texts and registration as given below, were not objected.

^{1/} Views were expressed that this provision would not be necessary.

Possible wording for Article XX

1. 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 hereby designated as the Depositary, who shall send duly certified copies thereof to the Governments of all signatory and acceding States.
2. The Depositary shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession and the date of entry into force of the Convention and of amendments thereto [any notice of withdrawal and of the date when the latter takes effect], [and of the notification specified in Article XIV, para. 3]. 1/
3. This Convention shall be registered by the Depositary in accordance with Article 102 of the Charter of the United Nations.

Done at ...

- or alternatively -

Article XX: Depositary, Registration

1. Depositary 1/

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

(1) notify all signatory and acceding States of;

(a) the date of each signature, and the date of deposit of each instrument of ratification or accession;

(b) (i) any amendment to this Convention proposed by any State Party to the Convention;

(ii) any amendment adopted;

(iii) the date of entry into force of any amendment;

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

2. Registration

This Convention shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

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

Article XXI: Languages, Authentic Texts

The original of the Convention with its Annexes, 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.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Convention.

Done at ...

The question of the settlement of disputes was further discussed in Working Group 2 in 1989.

Note:

In the course of consultations by the 1988 Chairman of the Ad Hoc Committee on the Final Clauses, the status of Annexes to the Convention, as well as of the provisions on reservations have been raised.

1. It is to be further discussed whether a separate article on the status of Annexes is needed.

Possible wording for the provision on the status of Annexes

"Annexes Nos. ... form an integral part of this Convention".

2. Several delegations held the view that neither reservations nor exceptions to the Convention should be provided, while some expressed views that such right might be included with respect to some provisions which were not clearly indicated.

The view was expressed that in regard to reservations, due attention should be paid to interpretative statements.

It is to be discussed whether to place the provision on reservations within the framework of Articles XV to XIX or to elaborate a separate article for this purpose.

Possible wording for the provisions on 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.

Article III, Section 1, Paragraph 1

The purpose of the Convention with respect to the... shall be... shall be... shall be...

It is the purpose of the Convention to... shall be... shall be... shall be...

Article III

In the course of the Convention of the 1950... shall be... shall be... shall be...

It is to be further determined a separate article on the state of... shall be... shall be... shall be...

Annexes to the Convention on the State of Kansas

Annex A - Laws on General Part of the Convention

1. The Convention shall be held on the... shall be... shall be... shall be...

2. The Convention shall be held on the... shall be... shall be... shall be...

3. The Convention shall be held on the... shall be... shall be... shall be...

Annex B - Laws on Special Part of the Convention

1. The Convention shall be held on the... shall be... shall be... shall be...

2. The Convention shall be held on the... shall be... shall be... shall be...

3. The Convention shall be held on the... shall be... shall be... shall be...

Annex C - Laws on General Part of the Convention

Material on the Preparation Period

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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 I

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" Systematic on-site verification of SSPFs and "other facilities" through on-site inspection and monitoring with instruments	Immediately after 30 days Immediately after 30 days	Recruitment and training of (...) inspectors & supporting staff See above & development and procurement of instruments	Information on SSPFs and "other facilities" in operation upon entry into force See above & acquiring and testing of instruments

ATTACHMENT I (continued)

<p>VI Annex VI (2), 9</p>	<p>Initial visits</p>	<p>Immediately after 30 days</p>	<p>Recruitment & training of (...) inspectors & supporting staff development and procurement of instruments</p>	<p>Information on facilities producing, processing or consuming chemicals listed in Schedule (2), acquiring and testing of instruments</p>
<p>Annex VI (2), 5</p>	<p>Systematic on-site verification on routine basis</p>			
<p>IV Annex IV, II, 3</p>	<p>Conclude agreements concerning storage facilities</p>	<p>Within (6) months</p>	<p>Establishment of administrative frame- work 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</p>	<p>Prenegotiation of agreements on facilities under Articles IV, V, VI respectively with the Preparatory Commission</p>
<p>IV Annex IV, V, 5</p>	<p>Conclude agreements concerning on-site verification of CW destruction facilities resp. combined plans for destruction and verification</p>	<p>Earlier than 12 months</p>		
<p>V Annex V, V, 2</p>	<p>Conclude agreements concerning on-site verification of declarations and systematic monitoring of closure and verification of destruction of CW production facilities</p>	<p>Within (6) months</p>	<p>See above</p>	<p>See above</p>
<p>VI Annex VI (1), II,</p>	<p>Conclude agreements concerning on-site verification of SSPFs and "other facilities"</p>	<p>Immediately after 30 days</p>	<p>Further elaboration of the model for an agreement, prenegotiation of agree- ments with signatories</p>	<p>Prenegotiation of agreements with the Preparatory Commission</p>

ATTACHMENT 1 (continued)

<p>VI Annex VI (2), 11</p>	<p>Conclude agreements concerning on-site verification of facilities producing etc. chemicals listed in Schedule (2)</p>	<p>(6) months</p>	<p>Prerenegotiation of agreements with signatories</p>	<p>Prerenegotiation of agreements with the Preparatory Commission</p>
<p>IV Annex IV, II, 7 and V, 7 VI (2) 14</p>	<p>Samples analysis in off-site laboratories designated by the Organization</p>	<p>Immediately after 30 days</p>	<p>Setting up a scheme of standardized equipment for off-site laboratories, designation of off-site laboratories and procedures for transport and handling of samples</p>	<p>Co-operation in the designation of off-site laboratories, installation of such laboratories pursuant to the schemes of the Preparatory Commission</p>
<p>Guidelines on the International Inspectorate (routine and challenge)</p> <p>IX, 2</p>	<p>Designation of inspectors and inspection personnel</p> <p>Agreement on points of entry</p> <p>Carrying out of challenge inspections</p>	<p>Immediately</p> <p>Immediately</p>	<p>Indication to signatories which inspectors are chosen for designation</p> <p>Preliminary agreement</p> <p>Training of inspectors for challenge inspections</p>	<p>Indication to the Preparatory Commission whether the inspectors might be acceptable</p> <p>Preliminary agreement</p> <p>Support in training activities</p>
<p>IX, 2</p>	<p>Designation of instruments for purposes of challenge inspection</p>	<p>Immediately</p>	<p>Development, procurement, testing, preliminary designation</p>	<p>Acquiring and testing of instruments</p>
<p>VII</p>	<p>Communicate with National Authorities</p>	<p>Immediately</p>	<p>Preparation of a list of names, addresses, communication lines</p>	<p>Providing data on National Authorities</p>

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.

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 feasibility 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.

REPORT OF THE AD HOC COMMITTEE ON THE COMPREHENSIVE PROGRAMME OF DISARMAMENT

I. INTRODUCTION

1. At the 484th plenary meeting of the Conference on Disarmament, on 7 February 1989, the President made a statement noting that the Conference on Disarmament did not need to take a decision on the re-establishment of the Ad Hoc Committee on the Comprehensive Programme of Disarmament, in view of its 1988 mandate. According to that mandate, the Ad Hoc Committee was to continue negotiations on the Comprehensive Programme of Disarmament with the firm intention of completing the elaboration of the Programme for its submission to the General Assembly as its mandate extended to the forty-fourth session of the General Assembly.

II. ORGANIZATION OF WORK AND DOCUMENTS

2. At the same plenary meeting, the Conference on Disarmament decided that Ambassador Alfonso Garcia Robles (Mexico) would continue as the Chairman of the Ad Hoc Committee. Mr. J. Gerardi-Siebert, Political Affairs Officer, United Nations Department of Disarmament Affairs, served as Secretary of the Committee.

3. The Ad Hoc Committee held 23 meetings between 7 February and 24 August 1989.

4. At their request, the Conference on Disarmament decided to invite the representatives of the following States not members of the Conference to participate in the meetings of the Ad Hoc Committee: Austria, Bangladesh, Democratic People's Republic of Korea, Denmark, Finland, Ghana, Greece, Holy See, Ireland, Malaysia, New Zealand, Norway, Portugal, Qatar, Republic of Korea, Senegal, Spain, Tunisia, Turkey and Zimbabwe.

III. SUBSTANTIVE WORK DURING THE SECOND PART OF THE 1989 SESSION

5. The Ad Hoc Committee continued negotiations on the Comprehensive Programme of Disarmament on the basis of the text annexed to the report submitted to the General Assembly (CD/867). ^{1/}

^{1/} The list of documents may be found in the reports of the previous Ad Hoc Working Group and in the reports of the Ad Hoc Committee which are an integral part of the reports of the Committee on Disarmament and of the Conference on Disarmament (CD/139, CD/292, CD/335, CD/421, CD/540, CD/728, CD/783 and Add. 1, CD/832 and CD/867).

B. Other weapons of mass destruction

1. All States should adhere 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.

2. All States which have not yet done so should accelerate the process of adhering to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction.

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3. It is necessary to make all possible efforts for the early achievement at the negotiations in the Conference on Disarmament of an international convention on the complete and effective prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction.

4. An international treaty on the prohibition of the development, production, stockpiling and use of radiological weapons should be concluded, bearing in mind the negotiations under way in the Conference on Disarmament and all proposals made in connection therewith.

5. Effective measures should be taken to avoid the danger and prevent the emergence of new types of weapons of mass destruction based on new scientific principles and achievements. Efforts should be appropriately pursued aiming at the prohibition of such types and systems of weapons. Specific agreements could be concluded on particular types of new weapons of mass destruction which may be identified. This question should be kept under continuing review.

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