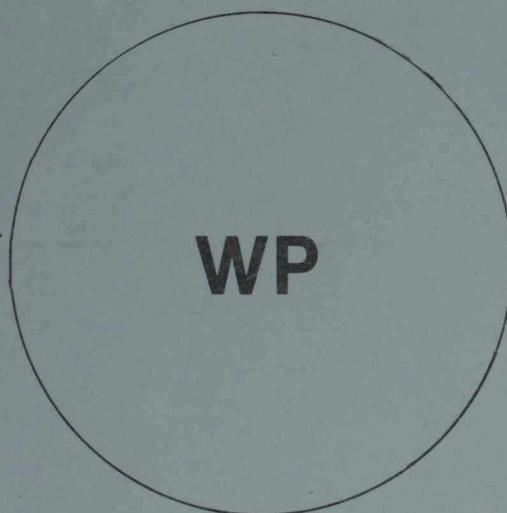


CONFERENCE ON DISARMAMENT

# CHEMICAL WEAPONS

## WORKING PAPERS

1988 SESSION



COMPILED AND EDITED BY:

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

FEBRUARY 1989



CONFERENCE ON DISARMAMENT

# CHEMICAL WEAPONS

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PREFACE

WP

This volume covers official documents (working papers) relating to chemical weapons submitted in plenary to the Conference on Disarmament during its 1988 session. It is compiled to facilitate discussions and research on this issue.

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

**WP**

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CHEMICAL WEAPONS WORKING PAPERS  
 SUBMITTED TO CD 1988  
 CHRONOLOGICAL INDEX

Serial Reference	Country	Description	Date
		<u>1988</u>	
383	CD/789	USSR	Letter Dated 16

PREFACE

WP

This volume covers official documents (working papers) relating to Chemical Weapons submitted in plenary to the Conference on Disarmament during its 1988 session. It is compiled to facilitate discussions and research on this issue.

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384	CD/790	USSR	Letter Dated 13 January 1988 from the Representative of the Union of Soviet Socialist Republics Addressed to the Conference on Disarmament Transmitting the Text of the Statement of 26 December 1987 by the Ministry of Foreign Affairs of the Union of Soviet Socialist Republics.	13.1.88
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**CHEMICAL WEAPONS WORKING PAPERS  
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CHRONOLOGICAL INDEX**

Serial	Reference	Country	Description	Date
<u>1988</u>				
383	CD/789	USSR	Letter Dated 16 December 1987 from Representative of the Union of Soviet Socialist Republics Addressed to the President of the Conference on Disarmament Transmitting a Working Paper Entitled "Information on the Presentation at the Shikhany Military Facility of Standard Chemical Munitions and of Technology for the Destruction of Chemical Weapons at a Mobile Unit"	16.12.87
384	CD/790	USSR	Letter Dated 12 January 1988 from the Representative of the Union of Soviet Socialist Republics Addressed to the Conference on Disarmament Transmitting the Text of the Statement of 26 December 1987 by the Ministry of Foreign Affairs of the Union of Soviet Socialist Republics.	13.1.88

Serial	Reference	Country	Description	Date
385	CD/791 CD/CW/ WP.183	FRG	Verification of Non-Production: The Case for <u>Ad Hoc</u> Checks	25.1.88
386	CD/792 CD/CW/ WP.184	FRG	Super-Toxic Lethal Chemicals (STLCs)	25.1.88
387	CD/793	UN	Letter Dated 21 January 1988 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 Second Session.	27.1.88
388	CD/794 (EXTRACT)	Czecho- slovakia	Letter Dated 26 January 1988 from the Permanent Represent- ative of the Czechoslovak Socialist Republic to the Secretary-General of the Conference on Disarmament Transmitting the Text of the Document entitled "Towards Increasing the Effectiveness of the Conference on Disarmament in Geneva" Adopted at the Session of the Ministers of Foreign Affairs of the Warsaw Treaty Member States Held in Prague on 29 and 29 October 1987	27.1.88

Serial	Reference	Country	Description	Date
388.1	CD/795	AHCCW	Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament and Its Work During the Period 12-29 January 1988	29.1.88
389	CD/797 (EXTRACT)	USA	Letter Dated 1 February from the Representative of the United States of America, Addressed to the President of the Conference on Disarmament, Transmitting the Text of a Document Entitled "Joint U.S. - Soviet Summit Statement" Issued by the United States of America and the Union of Soviet Socialist Republics on 10 December 1987 at the Conclusion of the Meeting between President of the United States, Ronald Reagan, and the General Secretary of the Central Committee of the Communist Party of the Soviet Union, Mikhail Gorbachev, in Washington, 7-10 December 1987.	5.2.88
390	CD/802 CD/CW/ WP.186	USA	Thresholds for Monitoring Chemical Prohibited by a Convention.	5.2.88
391	CD/805	CD	Decision on the the Re-establishment of the <u>Ad Hoc</u> Committee on Chemical Weapons.	9.2.88

Serial	Reference	Country	Description	Date
392	CD/807 (EXTRACT)	Argentina India Mexico Sweden	Letter Dated 15 February 1988 addressed to the President of the Conference on Disarmament by the Permanent Representative of Argentina, India, Mexico and Sweden Transmitting a Document Entitled the "Stockholm Declaration" Adopted in Stockholm on 21 January 1988 by the Five Heads of State or Government of Argentina, Greece, India, Mexico and Sweden and the First President of Tanzania.	19.2.88
393	CD/808 CD/CW/ WP.188	USSR	Letter Dated 18 February 1988 from the Representative of the Union of Soviet Socialist Republics Addressed to the President of the Conference on Disarmament Transmitting a Document Entitled "Memorandum on Multilateral Data Exchange In Connection with the Elaboration of a Convention of the Complete and General Prohibition and Destruction of Chemical Weapons (Proposed by the USSR)"	19.2.88
394	CD/809 CD/CW/ WP.189		Assistance in Relation to Protection Against Chemical Weapons	19.2.88

Serial	Reference	Country	Description	Date
395	CD/812	GDR	Chemical Weapons Convention: The Executive Council: Composition, Size, Decision-making and Other Procedural Matters	4.3.88
396	CD/813	Norway	Letter dated 7 March 1988 Addressed to the President of the Conference on Disarmament From the Permanent Representative of Norway Transmitting a Publication Entitled "Contribution by Norway to the Conference on Disarmament 1982 - 1987"	7.3.88
397	CD/821 CD/CW/ WP.196	USSR	Letter Dated 28 March 1988 from the Representative of the Union of Soviet Socialist Republics Addressed to the President of the Conference on Disarmament, Transmitting the Text of a Statement by the Ministry of Foreign Affairs of the Union of Soviet Socialist Republic Dated 16 March 1988	29.3.88
398	CD/822 CD/CW/ WP.197	FRG/ Italy	The Order of Destruction of Chemical Weapons	29.3.88

Serial	Reference	Country	Description	Date
399	CD/823	Canada	Chemical Weapons Convention, Article VIII: Factors Involved in Determining Verification Inspectorate Personnel and Resource Requirements	31.3.88
400	CD/826	FRG	Letter Dated 7 April 1988 From the Deputy Head of the Delegation of the Federal Republic of Germany to the President of the Conference on Disarmament Transmitting a Note from the Government of the Federal Republic of Germany Evoked by the Recent Reports About the Use of Chemical Weapons by Iraq Against Iran from January 1981 to March 1988	11.4.88
401	CD/827	Iran	Letter Dated 11 April 1988 from the Permanent Representative of the Islamic Republic of Iran Addressed to the President of the Conference on Disarmament.	12.4.88
402	CD/828	FRG	Provisions of Data Relevant to the Chemical Weapons Convention	12.4.88
403	CD/830 CD/CW/ WP.201	USA	Letter Dated 18 April 1988 from the Representative of the United States of America Addressed to the President	19.4.88

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403			of the Conference on Disarmament Transmitting the Text of a Document Entitled "Information Presented to the Visiting Soviet Delegation of the Tooele Army Depot, 18-21 November 1987"	
404	CD/842 (EXTRACT)	Poland	Letter Dated 22 July from the Permanent Representative of the Polish People's Republic Addressed to the President of the Conference on Disarmament, Transmitting the Texts of the Communique of the Meeting of the Political Consultative Committee of the States Parties to the Warsaw Treaty on Negotiations on Reductions in Armed Forces and Conventional Arms in Europe and the Implications of the Arms Race for the Environment and Other Aspects of Ecological Security, Adopted at the meeting of the Political Consultative Committee of the Warsaw Treaty Organization, Held in Warsaw on 15 and 16 July 1988	22.7.88
405	CD/843	Finland	Letter Dated 25 July 1988, Addressed to the President of the Conference on Disarmament from the Chargé d'Affaires a.i.	25.7.88

Serial	Reference	Country	Description	Date
			of Finland Transmitting a Document Entitled "Standard Operating Procedures for the Verification of Chemical Disarmament: D.1. A Proposal for Procedures Supporting the Reference Database"	
406	CD/846	USA	Letter Dated 25 July 1988 from the Representative of the United States of America Addressed to the President of the Conference on Disarmament Transmitting the Text of a Document Entitled "Joint Statement Between the United States and the Union of Soviet Socialist Republics Issued Following Meetings in Moscow, USSR - 29 May to 1 June 1988	29.7.88
407	CD/849 CD/CW/ WP.205	USA	Destruction of Chemical Weapons Production Facilities	28.7.88
408	CD/854	Australia	Letter Dated 8 August 1988 from the Permanent Representative of Australia Addressed to the Secretary-General of the Conference of Disarmament Transmitting a Statement by Mr. Bill Hayden, MP, Australian Minister of Foreign Affairs and Trade, Dated 5 August, on the Subject of the Use of Chemical Weapons in the Gulf War	8.8.88

Serial	Reference	Country	Description	Date
409	CD/856	UK	Past Production of Chemical Warfare Agents in the United Kingdom	11.8.88
410	CD/857	Norway	Letter Dated 12 August 1988 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. Development of Procedures for Verification of Illegal Use of Chemical Warfare Agents. Part VII"	12.8.88
411	CD/861	Norway	Verification of Alleged Use of Chemical Weapons	22.8.88
412	CD/865	Canada	Letter Dated 29 August 1988 Addressed to the Secretary-General of the Conference on Disarmament Transmitting Compendia Comprising Planary Statements and Working Papers Relating to Chemical Weapons from the 1987 Session of the Conference on Disarmament	31.8.88
413	CD/867 (EXTRACT)	AHCCD	Report of the Ad Hoc Committee on the Comprehensive Programme of Disarmament	2.9.88
414	CD/869 CD/CW/ WP.210	FRG	Verification of Non-Production of Chemical Weapons: <u>Ad hoc</u> checks	6.9.88

Serial	Reference	Country	Description	Date
415	CD/871 CD/CW/ WP.212	GDR	Provision of Data Relevant to the Chemical Weapons Convention	12.9.88
416	CD/872	Australia	Letter Dated 12 September 1988 from the Permanent Representative of Australia Addressed to the Secretary-General of the Conference of Disarmament Transmitting a Statement made in Canberra on 9 September 1988 by the Australian Minister of Foreign Affairs and Trade, Senator Gareth Evans, on the Reported Use of Chemical Weapons Against Kurdish Tribes in Northern Iraq	12.9.88
417	CD/873	Finland	Letter Dated 2 September 1988 Addressed to the President of the Conference on Disarmament from the Permanent Representative of Finland Transmitting a Document Entitled "Computer-Aided Techniques for the Verification of Chemical Disarmament; E.1 Verification Database"	13.9.88
418	CD/874	AHCCW	Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament	12.9.88





# CONFERENCE ON DISARMAMENT

CD/789  
16 December 1987

ENGLISH  
Original: RUSSIAN

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Description of the presentation

Annex 1. Programme

Annex 2. Introductory statement by Colonel-General V. K. Pikelov,  
Commander, Chemical Warfare Troops, USSR Ministry  
of Defense

Annex 3. LETTER DATED 16 DECEMBER 1987 FROM THE REPRESENTATIVE  
OF THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED  
TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT  
Annex 4. TRANSMITTING A WORKING PAPER ENTITLED "INFORMATION ON  
THE PRESENTATION AT THE SHIKHANY MILITARY FACILITY OF  
Annex 5. STANDARD CHEMICAL MUNITIONS AND OF TECHNOLOGY FOR THE  
Annex 6. DESTRUCTION OF CHEMICAL WEAPONS AT A MOBILE UNIT"

I have the honour to transmit herewith a USSR working paper entitled  
"Information on the presentation at the Shikhany military facility of standard  
chemical munitions and of technology for the destruction of chemical weapons  
at a mobile unit".

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

Annex 7. Mobile unit for the destruction of chemical weapons

Annex 8. Instructions for the use of protective equipment

(Signed) Y. Nazarkin  
Ambassador  
Permanent Representative of the  
Union of Soviet Socialist Republics to  
the Conference on Disarmament

1987

UNION OF SOVIET SOCIALIST REPUBLICS

INFORMATION ON THE PRESENTATION AT THE SHIKHANY MILITARY FACILITY OF  
STANDARD CHEMICAL MUNITIONS AND OF TECHNOLOGY FOR THE DESTRUCTION OF  
CHEMICAL WEAPONS AT A MOBILE UNIT

(Working paper)

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### Description of the presentation

In the Conference on Disarmament, on 6 August 1987, the Soviet side, in order to build an atmosphere of trust, and with a view to the early conclusion of an international convention on the complete prohibition of chemical weapons and the elimination of stockpiles thereof, invited participants in the chemical weapons negotiations to visit the Soviet military facility at Shikhany to acquaint themselves with standard chemical munitions and with a technology for the destruction of chemical weapons at a mobile unit.

The presentation was scheduled for 3 and 4 October 1987.

Invitations to the presentation were issued to the representatives of 51 States participating in the negotiations in the Conference on Disarmament. The programme is attached.

In total, the presentation was attended by more than 130 persons from 45 States, including 15 heads of delegations to the Conference on Disarmament, 2 representatives of the United Nations Secretariat, as well as military specialists, experts and advisers.

The presentation was covered by 56 representatives of the mass media, including 20 from foreign countries.

In inviting participants in the negotiations on a chemical weapons ban to visit the Shikhany military facility, the Soviet side was guided by the interests of a full, effective and verifiable ban on chemical weapons and by its desire to contribute in all possible ways to strengthening an atmosphere of trust in the negotiations. The presentation was a concrete manifestation of the Soviet Union's new approach to the solution of international problems.

Together with the proposals aimed at agreement without delay on a convention banning chemical weapons which the Soviet Union has put forward in the negotiations, and with other acts such as the halting of the manufacture of chemical weapons by the Soviet Union, the presentation at Shikhany pursued the goal of showing readiness to conclude an international convention on such weapons.

Those attending the presentation were flown from Moscow to a military airfield near the Shikhany facility in Aeroflot aircraft.

They were welcomed to the Shikhany facility by Colonel-General V.K. Pikalov, Commander of Chemical Warfare Troops of the USSR Ministry of Defence, in the facility's club (text attached).

The Commander of the Shikhany facility, Major-General R.F. Razuvanov, described to them the layout and the main zones of the facility, and the purposes for which they are used (text and sketch map of the facility attached).

During the presentation of standard chemical munitions, the participants were presented with four reports concerning chemical artillery munitions, chemical warheads for tactical missiles, air-launched chemical munitions, and chemical agents for close combat (texts of the reports and diagrams of the standard munitions, with combat characteristics, attached).

A total of 19 standard chemical munitions were displayed: 10 types of munitions for tube and rocket artillery; 2 warheads for tactical missiles; 6 types of aerial bomb and spray tank; and 1 type of munition, a chemical hand-grenade, for close combat.

For each type of munition the participants were informed of its military purpose, its calibre, the name of the CW agent with which it was filled, the method of dispersion of the agent, the type of fuse and the type of explosive, the weight of the projectile and the weight of the CW agent, the filling coefficient, and the materials from which the projectile was made.

Staff at the facility submitted a report on "The Soviet Army's chemical warfare agents" (text attached).

The report sets out the physical and chemical characteristics of blister agents, nerve agents and lung irritants, including the agents' chemical formula, molecular weight, physical state, boiling and freezing points, density, volatility, viscosity, surface tension, heat capacity, latent heat of evaporation and diffusion co-efficient. It also gives the agents' toxicity characteristics.

Those attending the presentation also heard a report on "Standard methods for determining the toxicity of CW agents" (text attached).

The report proposed a method for the categorization of super-toxic lethal chemicals that could be used in elaborating appropriate methods for inclusion in a convention.

As regards the technology for the destruction of chemical weapons, those attending the presentation were shown a mobile chemical weapon destruction unit and given an opportunity to thoroughly examine each of the machines comprising the unit as well as to acquaint themselves with their technical characteristics. They were informed of the purpose of the unit, its composition, process path, deployment time, staffing and energy supply requirements, weight and power specifications.

These points were dealt with in four reports by specialists on:

The purpose, design specifications and principles for use of the mobile chemical weapon destruction unit;

The technology for the destruction of chemical munitions at the mobile unit;

Safety arrangements during the destruction of chemical munitions at the mobile unit and their application;

Verification of the completeness of the destruction of chemical weapons at the mobile unit, and environmental protection measures.

Copies of these reports are attached.

The actual process of destruction of chemical munitions was demonstrated at the Shikhany facility's proving ground through the destruction of a 250-kilogram aerial bomb filled with the CW agent sarin.

Those present were able to observe the main stages in the destruction of a chemical weapon, such as the opening of the munition casing, the evacuation of the chemical warfare agent into a reactor, the thermochemical reaction of the destruction of the agent, and the thermal decomposition of the products of the decontamination. Work with actual chemical warfare agents was confirmed by biological experiments on animals.

In the course of the demonstration of the chemical weapon destruction technology, methods of verifying the completeness of destruction of CW agents were extensively presented, as were safety measures.

Since the technology for the destruction of chemical weapons at a mobile unit requires the use of personal protective equipment, those members of delegations who wished to acquaint themselves with the destruction process in greater detail were provided with such equipment in accordance with the safety regulations, and the equipment underwent technical testing. The time for which the equipment was worn depended on each individual's wish to observe the process of chemical weapon destruction directly. In this regard, instructions were provided on the rules for the use of protective equipment (text attached).

The members of delegations and reporters attending the presentation were able to film and take photographs as well as to make sound recordings on all the routes covered and throughout the visit.

Following the presentation of the standard chemical munitions, a briefing was held on board the Yuri Andropov, at which a speech was made by Lieutenant-General A.D. Kuntsevich, a leading expert from the USSR Ministry of Defence and the USSR Academy of Sciences. In the course of the briefing, Ambassador Y.K. Nazarkin, the Soviet representative to the Conference on Disarmament, Lieutenant-General Kuntsevich, and Major-General R.F. Razuvanov, Commander of the Shikhany military facility, answered numerous questions relating to the presentation.

On 5 October, a press conference on the results of the foreign representatives' visit to the Shikhany military facility was held in Moscow, at the press centre of the USSR Ministry of Foreign Affairs.

Participating in it were: Colonel-General V.K. Pikalov, Commander of the Chemical Warfare Troops of the USSR Ministry of Defence; Ambassador V.P. Karpov, Head of the Arms Limitation and Disarmament Department of the USSR Ministry of Foreign Affairs; Ambassador Y.K. Nazarkin, USSR representative to the Conference on Disarmament; Ambassador Rolf Ekéus, Chairman of the Conference on Disarmament's Ad hoc Committee on Chemical Weapons and head of the Swedish delegation; Lieutenant-General A.D. Kuntsevich, a leading expert in the USSR Ministry of Defence and the USSR Academy of Sciences; and Ambassador G.I. Gerasimov, head of the Information Department of the USSR Ministry of Foreign Affairs.

The press conference was attended by over 350 people, including 80 foreign correspondents.

It was addressed by Colonel-General V.K. Pikalov, Commander of the Chemical Warfare Troops of the USSR Ministry of Defence.

Annex 1

Programme for the presentation to participants  
of standard chemical munitions and a technology  
for the destruction of chemical weapons at a  
mobile unit

1-2 October	Arrival in Moscow
3 October	
9 a.m.	Departure by air from Moscow
10-11 a.m.	Arrival at the Bagai-Baranovka military airfield and transfer to the site of the munitions presentation
11 a.m.-1 p.m.	Meeting with commanding officers of the Shikhany facility
1-3 p.m.	Presentation of standard chemical munitions
6-7 p.m.	Briefing
8-11 p.m.	Entertainment, boat trip
4 October	
9 a.m.	Transfer to the site of the demonstration of chemical weapon destruction technology
10 a.m.-1 p.m.	Demonstration of chemical weapon destruction technology
2-3 p.m.	Transfer to Bagai-Baranovka military airfield
3 p.m.	Departure by air for Moscow
5 p.m.	Arrival in Moscow
5 October	
10.30 a.m.	Press conference on the results of the trip at the press centre of the USSR Ministry of Foreign Affairs

Annex 2

Introductory statement by Colonel-General V.K. Pikalov, Commander,  
Chemical Warfare Troops, USSR Ministry of Defence

The Shikhany military facility, which you have accepted an invitation to visit, comes directly under the military administration of the Chemical Warfare Troops.

I have the honour to welcome you to the Volga region on behalf of the authorities of the Ministry of Defence and to wish you well.

I think there is no need to comment on the programme for the presentation, since it is well known. I should like to say just one thing: the programme will be carried out to the full, and is unprecedented for us.

Although the year has been marked by abnormal weather, Nature has tried to provide us with some sunshine, and I hope that these conditions will also extend to our meeting.

As the programme for the presentation is rather a full one, I would earnestly request you to defer all the questions that arise in the course of our work until the briefing that will be held on the boat today, or to put them at the press conference that will take place on 5 October, at 10 a.m., in the press centre of the USSR Ministry of Foreign Affairs in Moscow.

Annex 3

Statement by Major-General R.F. Razuvanov, Commander,  
Shikhany military facility

Permit me to welcome you to the Shikhany military facility on behalf of the officers and all our staff. You are the first foreigners to have entered its territory.

That being so, permit me to describe the facility briefly to you.

On the way here, you were given information about the Saratov region and the Vol'sk district in which the facility lies, and about the particular features of the area.

You are now in the facility's club, which is situated in the residential zone. Directly adjacent to this are the administrative zone, the laboratory and technical zone, the security and safety sub-unit zone, and the stores and ancillary services zones (figure 1).

The residential zone contains housing for our personnel, together with common services and recreational facilities.

The administrative zone contains the administrative buildings for the control and administration of the facility.

Located within the administrative zone are the main services such as materials and technical supply, finance, transport, engineering, meteorology, communications and other sub-units essential to the operation of the facility.

The laboratory and technical zone contains buildings, structures and laboratory blocks necessary for the fulfilment of the functions assigned to the facility.

Other tasks assigned to our facility include those relating to chemical weapons.

Today, on the way to the point where the standard chemical munitions will be presented, you will have an opportunity to pass through our residential zone, the administration zone and the laboratory and technical zone; commentaries will be provided by facility personnel.

After the presentation you will travel across the proving ground and beyond the perimeter of the Shikhany military facility's buffer zone to the edge of the River Volga, where a cruise ship will be waiting for you near the settlement of Belogorodnya.

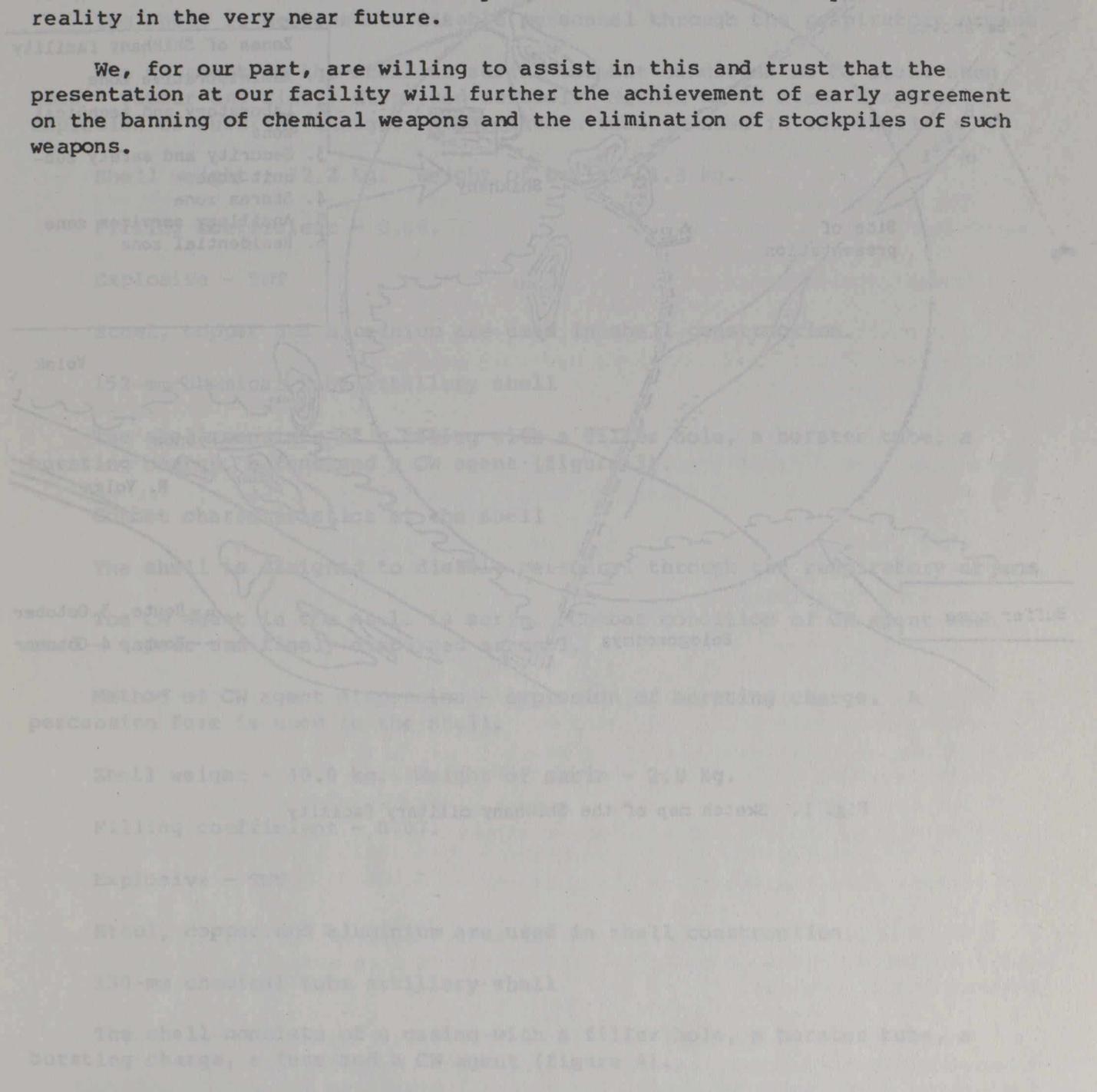
Tomorrow you will again go by this route to the presentation site, where a demonstration will be given of a technology for the destruction of chemical weapons. Afterwards, you will go to the Bagai-Baranovka airfield, from where you will fly to Moscow.

I should like to say once again on behalf of our entire team that we fully support the efforts being made by our Party and Government in the sphere of disarmament and the elimination of all types of weapons of mass destruction, including chemical weapons, by the year 2000.

We are happy to welcome you as the representatives of world public opinion as a whole and its struggle for peace and the reduction of international tension.

We hope that the participants in the negotiations will make every effort to ensure that a convention on the prohibition of chemical weapons becomes a reality in the very near future.

We, for our part, are willing to assist in this and trust that the presentation at our facility will further the achievement of early agreement on the banning of chemical weapons and the elimination of stockpiles of such weapons.



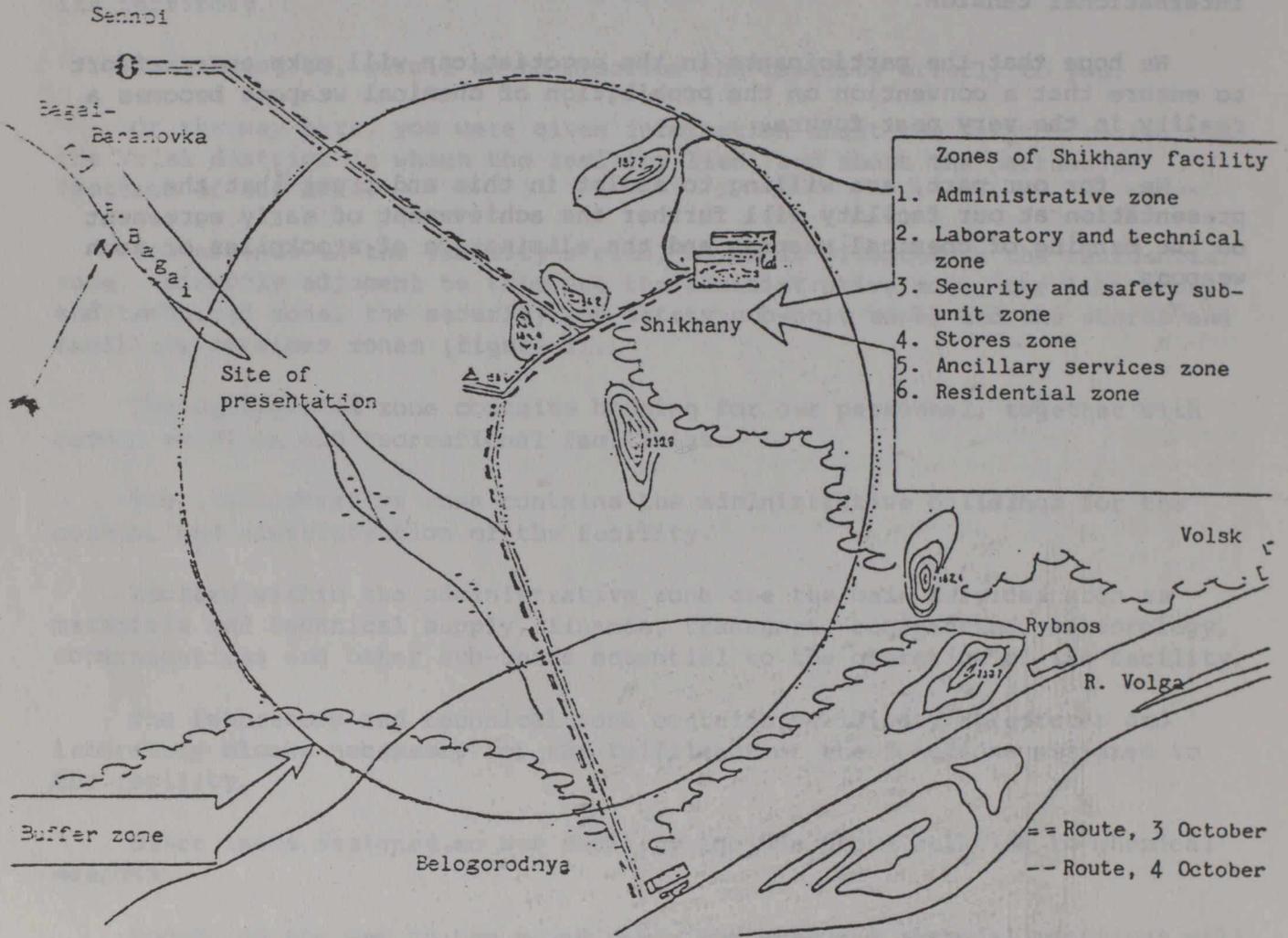


Fig. 1. Sketch map of the Shikhany military facility

## Annex 4

### Chemical artillery munitions

#### 122-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 2).

#### Combat characteristics of the shell

The shell is designed to disable personnel through the respiratory organs.

The CW agent in the shell is sarin. Combat condition of CW agent when used - vapour and finely dispersed aerosol. Method of CW agent dispersion - explosion of bursting charge. A percussion fuse is used in the shell.

Shell weight - 22.2 kg. Weight of sarin - 1.3 kg.

Filling coefficient - 0.06.

Explosive - TNT

Steel, copper and aluminium are used in shell construction.

#### 152-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 3).

#### Combat characteristics of the shell

The shell is designed to disable personnel through the respiratory organs.

The CW agent in the shell is sarin. Combat condition of CW agent when used - vapour and finely dispersed aerosol.

Method of CW agent dispersion - explosion of bursting charge. A percussion fuse is used in the shell.

Shell weight - 40.0 kg. Weight of sarin - 2.8 kg.

Filling coefficient - 0.07.

Explosive - TNT

Steel, copper and aluminium are used in shell construction.

#### 130-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 4).

#### Combat characteristics of the shell

The shell is designed to disable personnel through the respiratory organs.

CW agent in shell - sarin. Combat condition of CW agent when used - vapour and finely dispersed aerosol. Method of CW agent dispersion - explosion of bursting charge. A percussion fuse is used in the shell.

Shell weight - 33.4 kg. Weight of sarin - 1.6 kg.

Filling coefficient - 0.05.

Explosive - TNT.

Steel, copper and aluminium are used in shell construction.

#### 122-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 5).

#### Combat characteristics of the shell

The shell is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The CW agent in the shell is viscous lewisite. Combat condition of CW agent when used - vapour, aerosol and droplets. Method of CW agent dispersion - explosion of bursting charge. A time fuse is used in the shell.

Shell weight - 23.1 kg. Weight of viscous lewisite - 3.3 kg.

Filling coefficient - 0.14.

Explosive - TNT

Steel, copper and aluminium are used in shell construction.

#### 152-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 6).

#### Combat characteristics of the shell

The shell is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate materiel, terrain and engineering structures.

The CW agent in the shell is viscous lewisite. Combat condition of CW agent when used - vapour, aerosol and droplets. Method of CW agent dispersion - explosion of bursting charge. A time fuse is used in the shell.

Shell weight - 42.5 kg. Weight of viscous lewisite - 5.4 kg.

Filling coefficient - 0.13.

Explosive - TNT.

Steel, copper and aluminium are used in shell construction.

130-mm chemical tube artillery shell

The shell consists of a casing with a filler hole, a burster tube, a bursting charge, a fuse and a CW agent (figure 7).

Combat characteristics of the shell

The shell is designed to disable personnel through unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The CW agent in the shell is VX. Combat condition of CW agent when used - dense aerosol and droplets. Method of CW agent dispersion - explosion of the bursting charge. A proximity fuse is used in the shell.

Shell weight - 33.4 kg. Weight of VX - 1.4 kg.

Filling coefficient - 0.04.

Explosive - TNT.

Steel, copper and aluminium are used in shell construction.

122-mm chemical rocket missile

The missile consists of a body with a filler hole, a primer tube, a bursting charge, a fuse and a CW agent (figure 8).

Combat characteristics of the missile

The missile is designed to disable personnel through unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The CW agent in the missile is VX. Combat condition of CW agent when used - dense aerosol and droplets.

Method of CW agent dispersion - explosion of bursting charge. A proximity fuse is used in the missile.

Weight of missile - 19.3 kg. Weight of VX - 2.9 kg.

Filling coefficient - 0.15.

Explosive - TNT.

Steel, copper and aluminium are used in missile construction.

#### 122-mm chemical rocket missile

The missile consists of a body with a filler hole, a primer tube, a bursting charge, a fuse and a CW agent (figure 9).

#### Combat characteristics of the missile

The missile is designed to disable personnel through the respiratory organs.

The CW agent in the missile is sarin. Combat condition of CW agent when used - vapour and finely dispersed aerosol. Method of CW agent dispersion - explosion of the bursting charge. A percussion fuse is used in the missile.

Weight of missile - 19.3 kg. Weight of sarin - 3.1 kg.

Filling coefficient - 0.16.

Explosive - TNT.

Steel, copper and aluminium are used in missile construction.

#### 140-mm chemical rocket missile

The missile consists of a body with a filler hole, a primer tube, a bursting charge, a fuse and a CW agent (figure 10).

#### Combat characteristics of the missile

The missile is designed to disable personnel through the respiratory organs.

The CW agent in the missile is sarin. Combat condition of CW agent when used - vapour and finely dispersed aerosol. Method of CW agent dispersion - explosion of the bursting charge. A percussion fuse is used in the missile.

Weight of the missile - 18.3 kg. Weight of sarin - 2.2 kg.

Filling coefficient - 0.12.

Explosive - TNT.

Steel, copper and aluminium are used in missile construction.

#### 240-mm chemical rocket missile

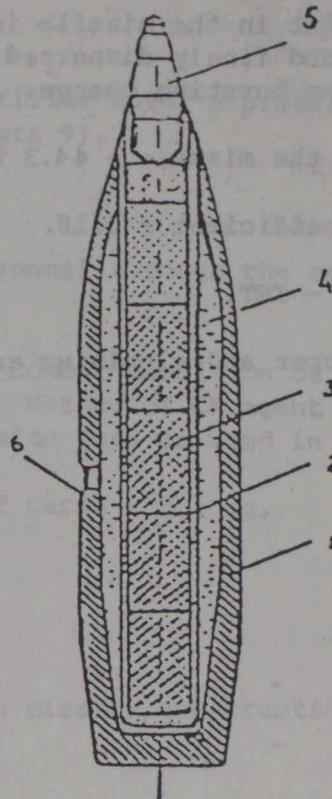
The missile consists of a body with a filler hole, a primer tube, a bursting charge, a fuse and a CW agent (figure 11).

#### Combat characteristics of the missile

The missile is designed to disable personnel through the respiratory organs.



1. Casing
2. Burster tube
3. Bursting charge
4. CW agent
5. Fuse
6. Filler hole

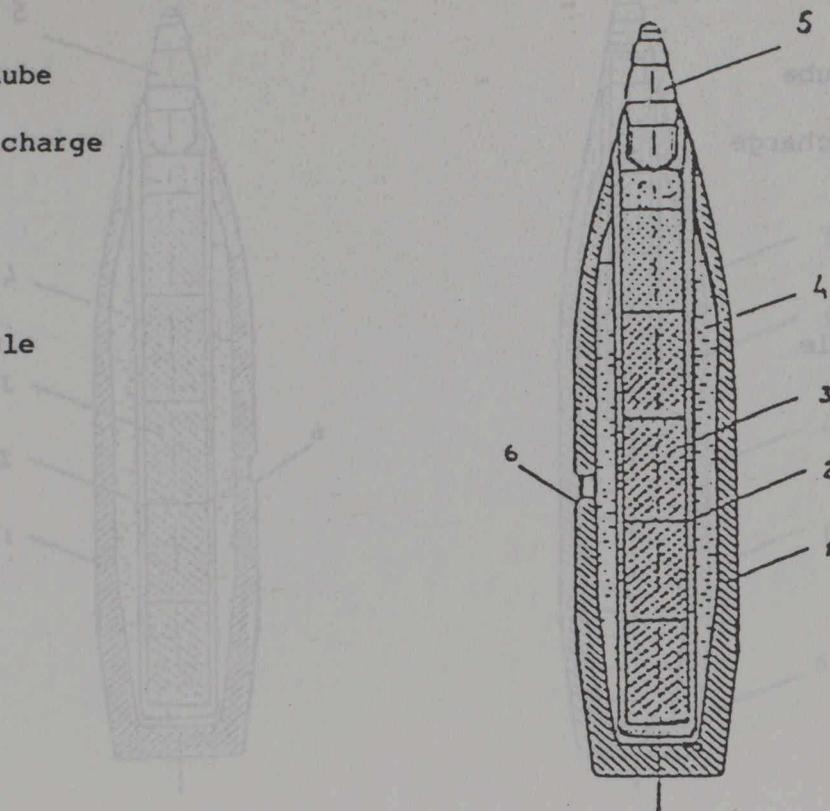


#### Combat characteristics

1. Purpose	To disable personnel through respiratory organs
2. Calibre	122 mm
3. CW agent	
Name	Sarin
Combat condition	Vapour and finely dispersed aerosol
4. Method of CW agent dispersion	Explosion of bursting charge
5. Fuse type	Percussion
6. Weight of shell	22.2 kg
7. Weight of CW agent	1.3 kg
8. Filling coefficient	0.06
9. Explosive	TNT
10. Construction materials	Steel, copper, aluminium

Figure 2. 122-mm chemical tube artillery shell

1. Casing
2. Burster tube
3. Bursting charge
4. CW agent
5. Fuse
6. Filler hole

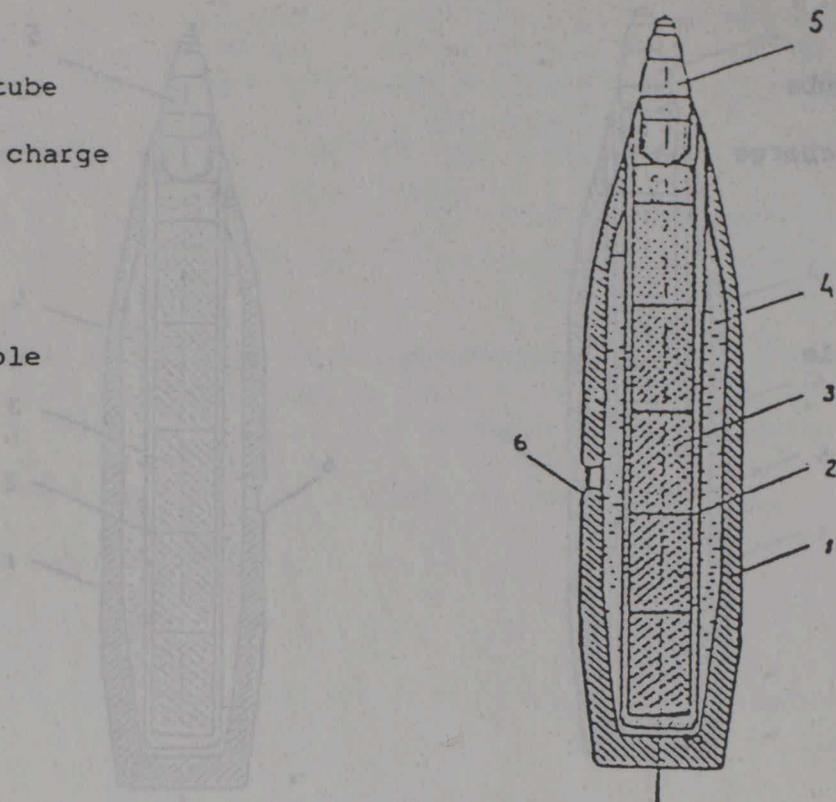


Combat characteristics

- |                                  |   |
|----------------------------------|---|
| 1. Purpose                       | To disable personnel through respiratory organs |
| 2. Calibre                       | 152 mm  |
| 3. CW agent                      |   |
| Name                             | Sarin   |
| Combat condition                 | Vapour and finely dispersed aerosol             |
| 4. Method of CW agent dispersion | Explosion of bursting charge                    |
| 5. Fuse type                     | Percussion                                      |
| 6. Weight of shell               | 40.0 kg   |
| 7. Weight of CW agent            | 2.8 kg  |
| 8. Filling coefficient           | 0.07  |
| 9. Explosive                     | TNT   |
| 10. Construction materials       | Steel, copper, aluminium                        |

Figure 3. 152-mm chemical tube artillery shell

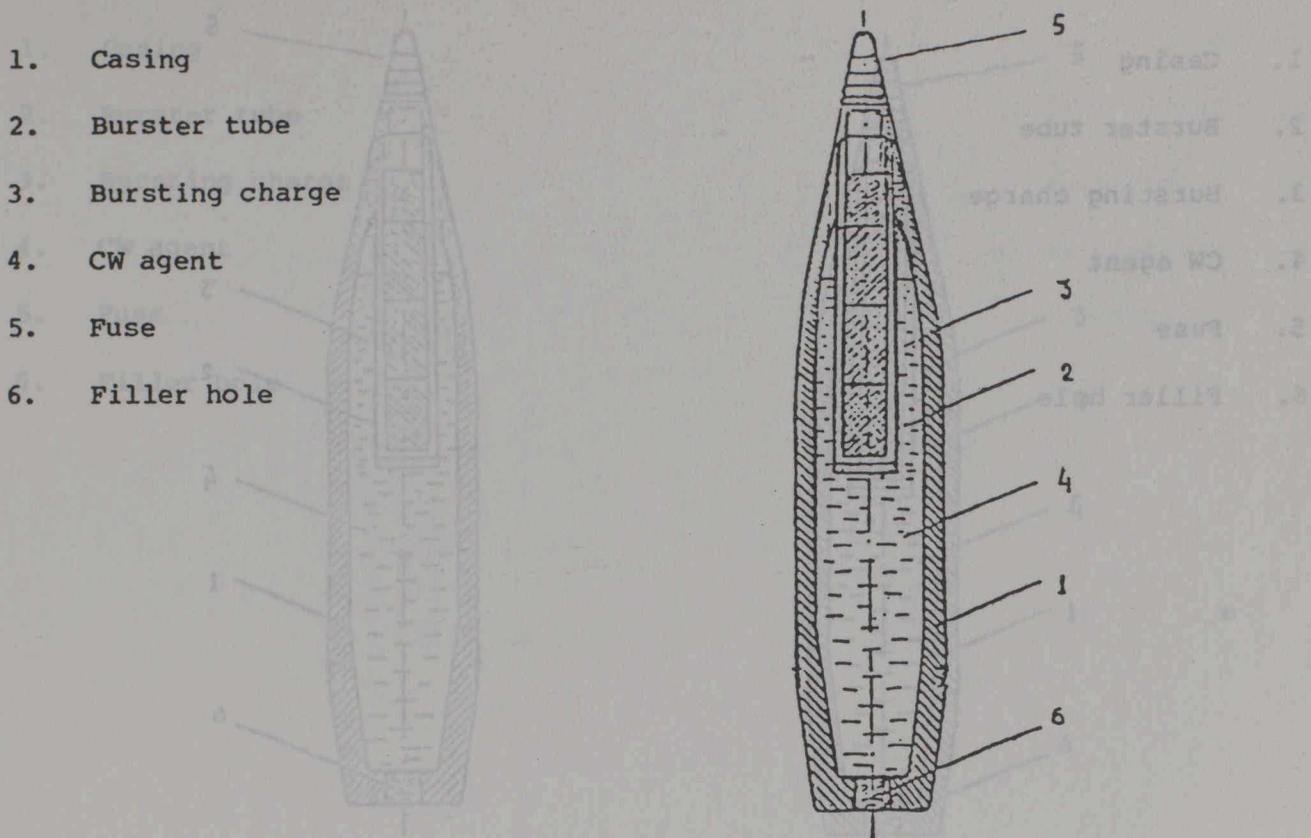
1. Casing
2. Burster tube
3. Bursting charge
4. CW agent
5. Fuse
6. Filler hole



#### Combat characteristics

1. Purpose	To disable personnel through respiratory organs
2. Calibre	130 mm
3. CW agent	
Name	Sarin
Combat condition	Vapour and finely dispersed aerosol
4. Method of CW agent dispersion	Explosion of bursting charge
5. Fuse type	Percussion
6. Weight of shell	33.4 kg
7. Weight of CW agent	1.6 kg
8. Filling coefficient	0.05
9. Explosive	TNT
10. Construction materials	Steel, copper, aluminium

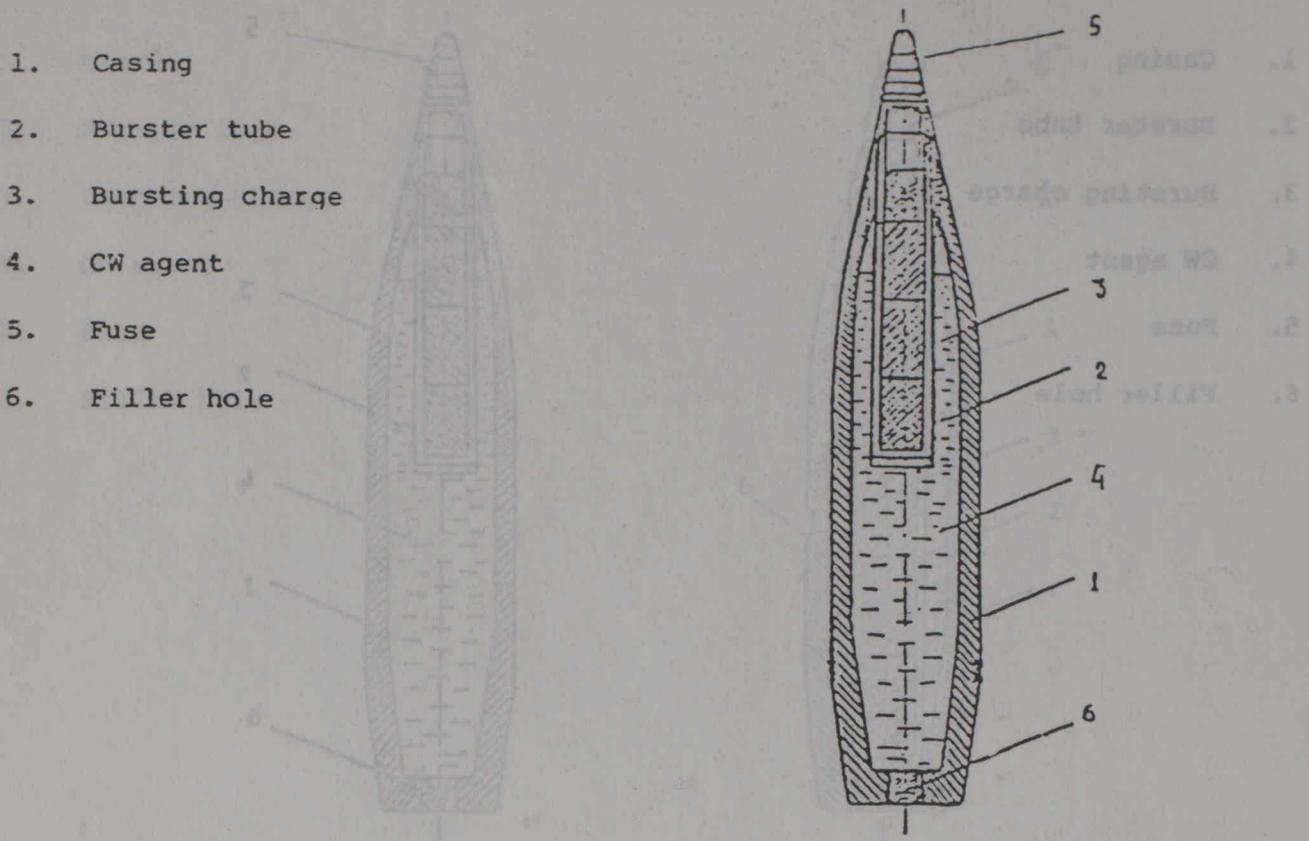
Figure 4. 130-mm chemical tube artillery shell



Combat characteristics

1. Purpose	To disable personnel through respiratory organs and unprotected parts of the skin and to contaminate <u>matériel</u> , terrain and engineering structures
2. Calibre	122 mm
3. CW agent	
Name	Viscous lewisite
Combat condition	Vapour, aerosol and droplets
4. Method of CW agent dispersion	Explosion of bursting charge
5. Fuse type	Time
6. Weight of shell	23.1 kg
7. Weight of CW agent	3.3 kg
8. Filling coefficient	0.14
9. Explosive	TNT
10. Construction materials	Steel, copper, aluminium

Figure 5. 122-mm chemical tube artillery shell

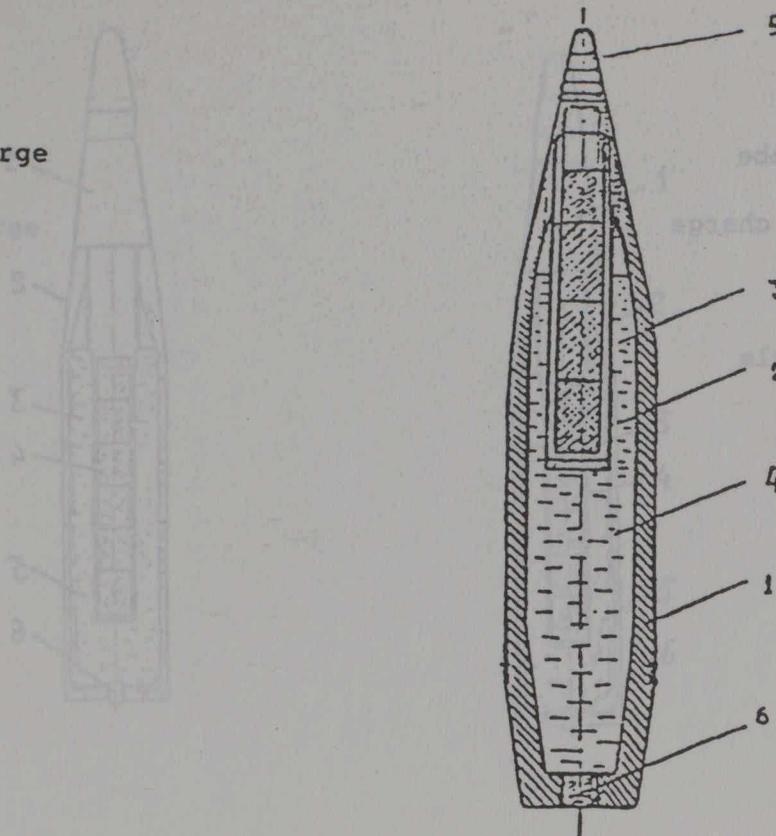


Combat characteristics

1. Purpose	To disable personnel through respiratory organs and unprotected parts of the skin and to contaminate <u>matériel</u> , terrain and engineering structures
2. Calibre	152 mm
3. CW agent	
Name	Viscous lewisite
Combat condition	Vapour, aerosol and droplets
4. Method of CW agent dispersion	Explosion of bursting charge
5. Fuse type	Time
6. Weight of shell	42.5 kg
7. Weight of CW agent	5.4 kg
8. Filling coefficient	0.13
9. Explosive	TNT
10. Construction materials	Steel, copper, aluminium

Figure 6. 152-mm chemical tube artillery shell

1. Casing
2. Burster tube
3. Bursting charge
4. CW agent
5. Fuse
6. Filler hole

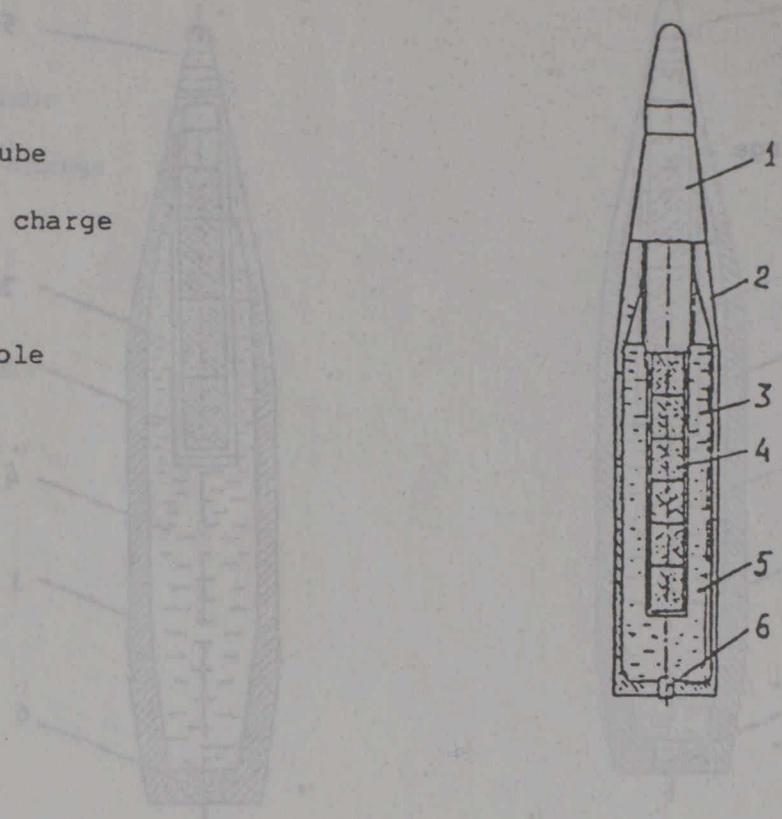


#### Combat characteristics

- |     |                               |   |
|-----|-------------------------------|---|
| 1.  | Purpose                       | To disable personnel through unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2.  | Calibre                       | 130 mm  |
| 3.  | CW agent                      | VX  |
|     | Name                          | VX  |
|     | Combat condition              | Dense aerosol and droplets  |
| 4.  | Method of CW agent dispersion | Explosion of bursting charge  |
| 5.  | Fuse type                     | Proximity   |
| 6.  | Weight of shell               | 33.4 kg   |
| 7.  | Weight of CW agent            | 1.4 kg  |
| 8.  | Filling coefficient           | 0.04  |
| 9.  | Explosive                     | TNT   |
| 10. | Construction materials        | Steel, copper, aluminium  |

Figure 7. 130-mm chemical tube artillery shell

1. Fuse
2. Body
3. Primer tube
4. Bursting charge
5. CW agent
6. Filler hole

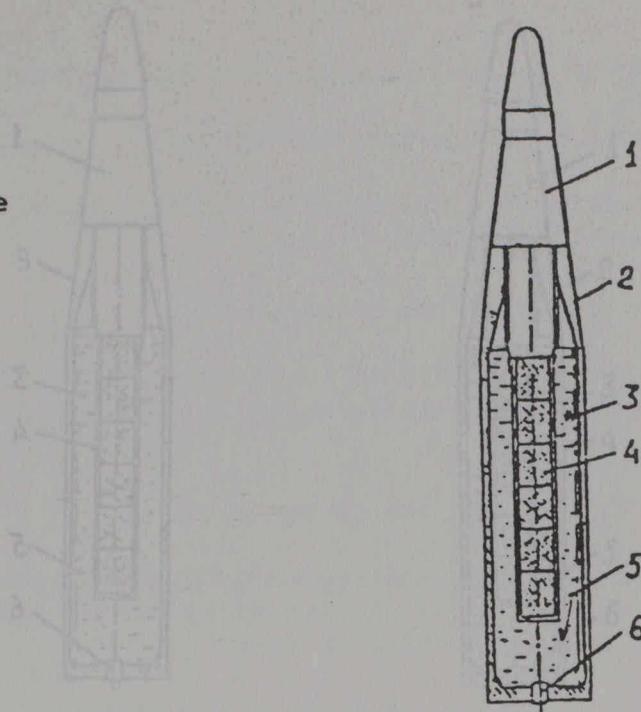


Combat characteristics

- |     |                        |   |
|-----|------------------------|---|
| 1.  | Purpose                | To disable personnel through unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2.  | Calibre                | 122 mm  |
| 3.  | CW agent               | VX  |
|     | Name                   | VX  |
|     | Combat condition       | Dense aerosol and droplets  |
| 4.  | Method of dispersion   | Explosion of bursting charge  |
| 5.  | Fuse type              | Proximity   |
| 6.  | Weight of missile      | 19.3 kg   |
| 7.  | Weight of CW agent     | 2.9 kg  |
| 8.  | Filling coefficient    | 0.15  |
| 9.  | Explosive              | TNT   |
| 10. | Construction materials | Steel, copper, aluminium  |

Figure 8. 122-mm chemical rocket missile

1. Fuse
2. Body
3. Primer tube
4. Bursting charge
5. CW agent
6. Filler hole

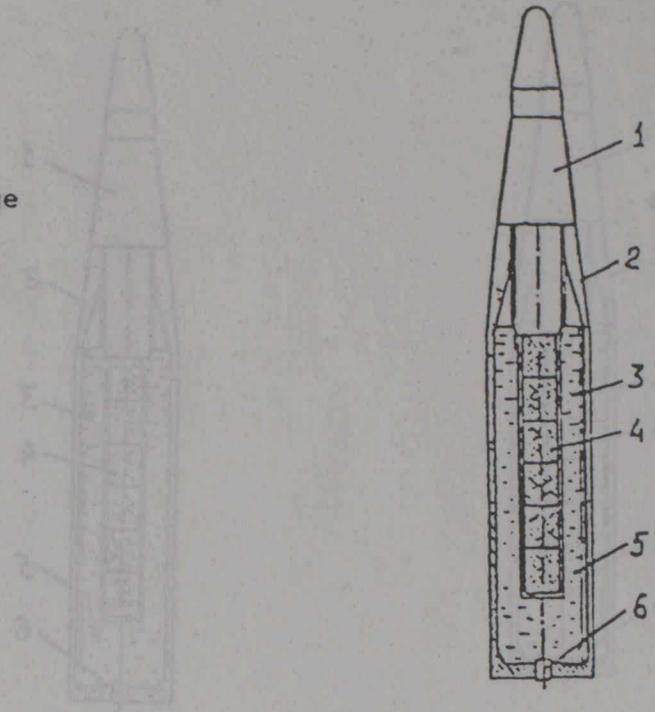


Combat characteristics

- |                            |   |
|----------------------------|---|
| 1. Purpose                 | To disable personnel through respiratory organs |
| 2. Calibre                 | 122 mm  |
| 3. CW agent                |   |
| Name                       | Sarin   |
| Combat condition           | Vapour and finely dispersed aerosol             |
| 4. Method of dispersion    | Explosion of bursting charge                    |
| 5. Fuse type               | Percussion                                      |
| 6. Weight of missile       | 19.3 kg   |
| 7. Weight of CW agent      | 3.1 kg  |
| 8. Filling coefficient     | 0.16  |
| 9. Explosive               | TNT   |
| 10. Construction materials | Steel, copper, aluminium                        |

Figure 9. 122-mm chemical rocket missile

1. Fuse
2. Body
3. Primer tube
4. Bursting charge
5. CW agent
6. Filler hole

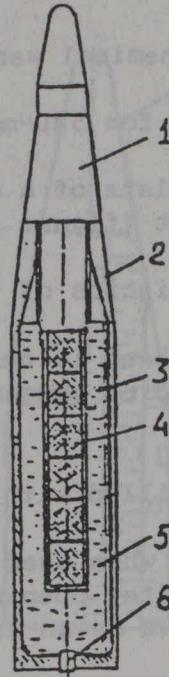


Combat characteristics

- |                                  |   |
|----------------------------------|---|
| 1. Purpose                       | To disable personnel through respiratory organs |
| 2. Calibre                       | 140 mm  |
| 3. CW agent                      |   |
| Name                             | Sarin   |
| Combat condition                 | Vapour and finely dispersed aerosol             |
| 4. Method of CW agent dispersion | Explosion of bursting charge                    |
| 5. Fuse type                     | Percussion                                      |
| 6. Weight of missile             | 18.3 kg   |
| 7. Weight of CW agent            | 2.2 kg  |
| 8. Filling coefficient           | 0.12  |
| 9. Explosive                     | TNT   |
| 10. Construction materials       | Steel, copper, aluminium                        |

Figure 10. 140-mm chemical rocket missile

1. Fuse
2. Body
3. Primer tube
4. Bursting charge
5. CW agent
6. Filler hole



**Combat characteristics**

- |                                  |   |
|----------------------------------|---|
| 1. Purpose                       | To disable personnel through respiratory organs |
| 2. Calibre                       | 240 mm  |
| 3. CW agent                      |   |
| Name                             | Sarin   |
| Combat condition                 | Vapour and finely dispersed aerosol             |
| 4. Method of CW agent dispersion | Explosion of bursting charge                    |
| 5. Fuse type                     | Percussion                                      |
| 6. Weight of missile             | 44.3 kg   |
| 7. Weight of CW agent            | 8.0 kg  |
| 8. Filling coefficient           | 0.18  |
| 9. Explosive                     | TNT   |
| 10. Construction materials       | Steel, copper, aluminium                        |

Figure 11. 240-mm chemical rocket missile

Annex 5

Chemical warheads for tactical missiles

Chemical warhead for 540-mm tactical missile

The warhead consists of a casing with a filler hole, a bursting charge, a VT fuse and a CW agent (figure 12).

Combat characteristics of the warhead

The chemical warhead is designed to disable personnel through unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The warhead is filled with the CW agent VX.

Combat condition when used - dense aerosol and droplets. Method of CW agent dispersion after opening of warhead by means of bursting charge - fragmentation of the VX by an inflow of air.

Weight of warhead - 436 kg. Weight of VX - 216 kg.

Filling coefficient of warhead with CW agent - 0.5.

Steel, aluminium and copper are used in warhead construction.

Chemical warhead for 884-mm tactical missile

The warhead consists of a casing with a filler hole, a bursting charge, a VT fuse and a CW agent (figure 13).

Combat characteristics of the warhead

The chemical warhead is designed to disable personnel through unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The warhead is filled with the CW agent viscous VX.

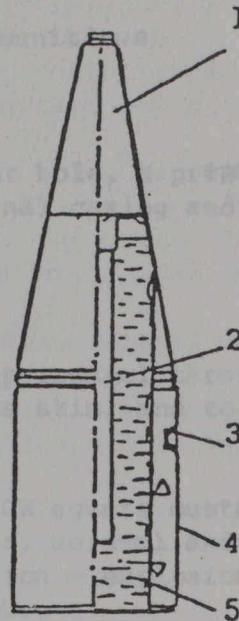
Combat condition when used - dense aerosol and droplets. Method of CW agent dispersion after opening of warhead by means of bursting charge - fragmentation of the viscous VX by an inflow of air.

Weight of the warhead - 985 kg. Weight of the viscous VX - 555 kg.

Filling coefficient of warhead with CW agent - 0.56.

Steel, aluminium and copper are used in warhead construction.

1. VT fuse
2. Bursting charge
3. Filler hole
4. Casing
5. CW agent

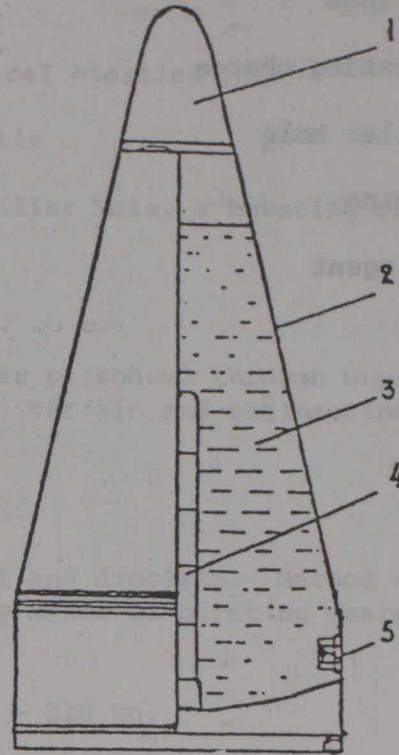


#### Combat characteristics

- |    |                               |   |
|----|-------------------------------|---|
| 1. | Purpose                       | To disable personnel through unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. | Calibre                       | 540 mm  |
| 3. | CW agent                      | <p>Name VX</p> <p>Combat condition Dense aerosol and droplets</p>   |
| 4. | Method of CW agent dispersion | Opening of warhead by means of bursting charge, fragmentation of the CW agent by inflow of air                                      |
| 5. | Weight of warhead             | 436.0 kg  |
| 6. | Weight of CW agent            | 216.0 kg  |
| 7. | Filling coefficient           | 0.5   |
| 8. | Construction materials        | Steel, copper, aluminium  |

Figure 12. Chemical warhead for 540-mm tactical missile

1. VT fuse
2. Casing
3. CW agent
4. Bursting charge
5. Filler hole



Combat characteristics

- |    |                               |   |
|----|-------------------------------|---|
| 1. | Purpose                       | To disable personnel through unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. | Calibre                       | 884 mm  |
| 3. | CW agent                      | Name<br>Viscous VX  |
|    | Combat condition              | Dense aerosol and droplets  |
| 4. | Method of CW agent dispersion | Opening of the warhead by means of bursting charge, fragmentation of the CW agent by inflow of air                                  |
| 5. | Weight of warhead             | 985.0 kg  |
| 6. | Weight of CW agent            | 555.0 kg  |
| 7. | Filling coefficient           | 0.56  |
| 8. | Construction materials        | Steel, copper, aluminium  |

Figure 13. Chemical warhead for 884-mm tactical missile

Annex 6

**Air-launched chemical munitions**

**100-kg chemical bomb**

The bomb consists of a shell with a filler hole, a primer tube, a bursting charge, a propelling charge, an external casing and a CW agent (figure 14).

**Combat characteristics of the bomb**

The chemical bomb is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The bomb is filled with a mixture of the CW agents mustard gas and lewisite. Combat condition when used - vapour, aerosol and droplets. Method of CW agent dispersion in combat condition - explosion of bursting charge. A percussion fuse is used in the bomb.

Weight of bomb - 100 kg. Weight of CW agent - 39 kg. Filling coefficient - 0.39.

Steel, copper and aluminium are used in bomb construction.

**100-kg. chemical bomb**

The bomb consists of a shell with a filler hole, a primer tube, a bursting charge and a CW agent (figure 15).

**Combat characteristics of the bomb**

The chemical bomb is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The bomb is filled with a mixture of the CW agents mustard gas and lewisite. Combat condition of CW agent when used - vapour, aerosol and droplets. Method of CW agent dispersion into combat condition - explosion of the bursting charge. A percussion fuse is used in the bomb.

Weight of the bomb - 80 kg. Weight of the CW agent - 28 kg. Filling coefficient - 0.35.

Steel, copper, and aluminium are used in bomb construction.

**250-kg chemical bomb**

The bomb consists of a shell with a filler hole, a primer tube, a bursting charge and a CW agent (figure 16).

**Combat characteristics of the bomb**

The chemical bomb is designed to disable personnel through the respiratory organs.

The bomb is filled with the CW agent sarin. Combat condition of the CW agent when used - vapour and finely dispersed aerosol.

Method of CW agent dispersion into combat condition - explosion of the bursting charge. A percussion fuse is used in the bomb.

Weight of the bomb - 233 kg. Weight of sarin - 49 kg. Filling coefficient - 0.21.

Steel, copper and aluminium are used in bomb construction.

250-kg chemical spray tank

The spray tank consists of a casing with a filler hole, a primer tube, a bursting charge and a CW agent (figure 17).

Combat characteristics of the tank

The chemical spray tank is designed to disable personnel through unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The tank is filled with the CW agent viscous soman. Combat condition of the CW agent when used - dense aerosol and droplets. Method of CW agent dispersion after opening of the casing by means of the bursting charge - fragmentation of the CW agent by an inflow of air. A time fuse is used in the tank.

Weight of the tank - 130 kg. Weight of the CW agent - 45 kg. Filling coefficient - 0.35.

Steel, copper and aluminium are used in tank construction.

500-kg chemical spray tank

The spray tank consists of a casing with a filler hole, a bursting charge and a CW agent (figure 18).

Combat characteristics of the tank

The chemical spray tank is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures.

The tank is filled with a mixture of the CW agents mustard gas and lewisite. Combat condition of the CW agent when used - vapour, aerosol and droplets. Method of CW agent dispersion after opening of the casing by means of the bursting charge - fragmentation of the CW agent by an inflow of air. A time fuse is used in the tank.

Weight of the tank - 280 kg. Weight of the CW agent - 164 kg. Filling coefficient - 0.59.

Steel, copper and aluminium are used in tank construction.

1500-kg chemical spray tank

The spray tank consists of a casing with a filler hole, a burster charge and a CW agent (figure 19).

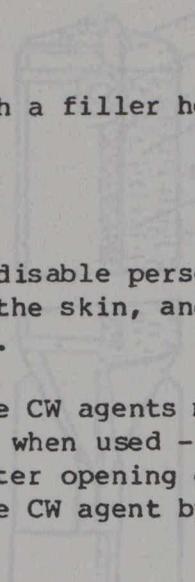
Combat characteristics of the tank

The chemical spray tank is designed to disable personnel through the respiratory organs and unprotected parts of the skin, and to contaminate terrain, matériel and engineering structures.

The tank is filled with a mixture of the CW agents mustard gas and lewisite. Combat condition of the CW agent when used - vapour, aerosol and droplets. Method of CW agent dispersion after opening of the casing by means of the bursting charge - fragmentation of the CW agent by an inflow of air. A time fuse is used in the tank.

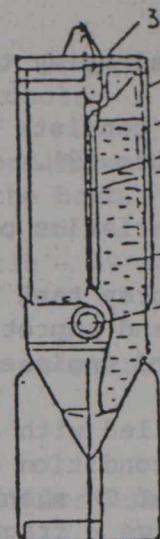
Weight of the tank - 963 kg. Weight of CW agent - 630 kg. Filling coefficient - 0.65.

Steel, copper and aluminium are used in tank construction.



No.	Parameter	Value
1.	Weight of tank	963 kg
2.	Weight of CW agent	630 kg
3.	Filling coefficient	0.65
4.	Method of dispersion	Fragmentation of CW agent by inflow of air
5.	Fuse type	Time fuse
6.	Weight of bomb	100 kg
7.	Weight of CW agent	630 kg
8.	Filling coefficient	0.65
9.	Construction materials	Steel, copper, aluminium

1. External casing
2. Shell
3. Propelling charge
4. Primer tube
5. Bursting charge
6. CW agent
7. Filler hole

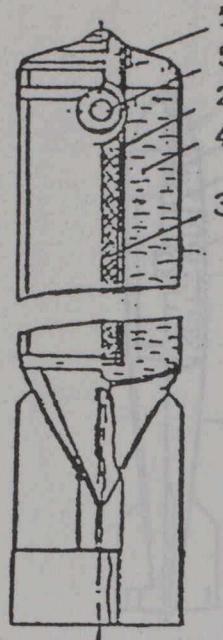


**Combat characteristics**

- |                           |  |
|---------------------------|--|
| 1. Purpose                | To disable personnel through respiratory organs and unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. Calibre                | 100 kg   |
| 3. CW agent               |  |
| Name                      | Mixture of mustard gas and lewisite  |
| Combat condition          | Vapour, aerosol and droplets   |
| 4. Method of dispersion   | Explosion of bursting charge   |
| 5. Fuse type              | Percussion   |
| 6. Weight of bomb         | 100 kg   |
| 7. Weight of CW agent     | 39 kg  |
| 8. Filling coefficient    | 0.39   |
| 9. Construction materials | Steel, copper, aluminium   |

Figure 14. 100-kg chemical bomb

1. Shell
2. Primer tube
3. Bursting charge
4. CW agent
5. Filler hole

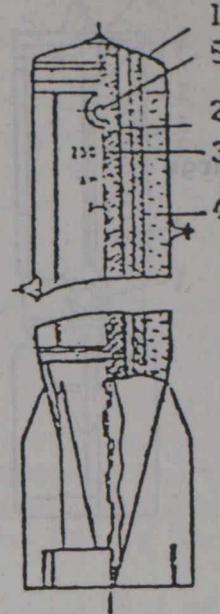


Combat characteristics

- |    |                        |  |
|----|------------------------|--|
| 1. | Purpose                | To disable personnel through respiratory organs and unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. | Calibre                | 100 kg   |
| 3. | CW agent               | <p>Name Mixture of mustard gas and lewisite</p> <p>Combat condition Vapour, aerosol and droplets</p>   |
| 4. | Method of dispersion   | Explosion of bursting charge   |
| 5. | Fuse type              | Percussion   |
| 6. | Weight of bomb         | 80 kg  |
| 7. | Weight of CW agent     | 28 kg  |
| 8. | Filling coefficient    | 0.35   |
| 9. | Construction materials | Steel, copper, aluminium   |

Figure 15. 100-kg chemical bomb

1. Shell
2. Primer tube
3. Bursting charge
4. CW agent
5. Filler hole

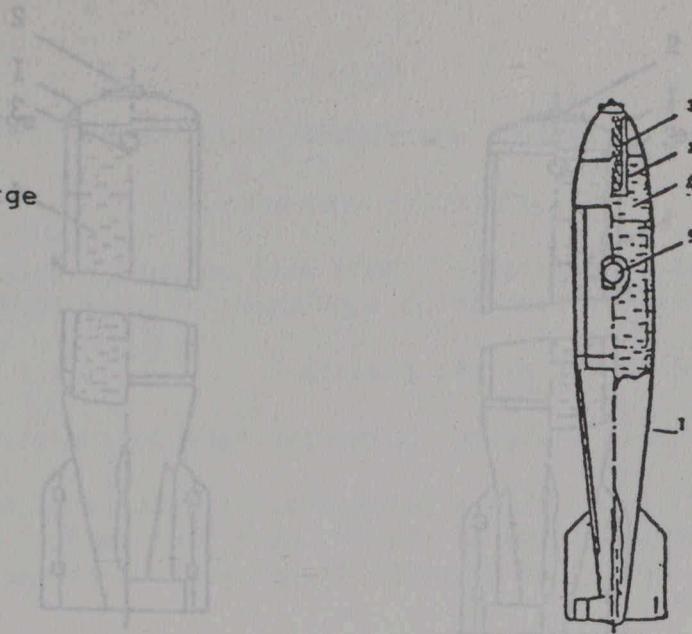


Combat characteristics

1. Purpose	To disable personnel through respiratory organs
2. Calibre	250 kg
3. CW agent	
Name	Sarin
Combat condition	Vapour and finely dispersed aerosol
4. Method of dispersion	Explosion of bursting charge
5. Fuse type	Instantaneous percussion
6. Weight of bomb	233 kg
7. Weight of CW agent	49 kg
8. Filling coefficient	0.21
9. Construction materials	Steel, copper, aluminium

Figure 16. 250-kg chemical bomb

1. Casing
2. Primer tube
3. Bursting charge
4. CW agent
5. Filler hole

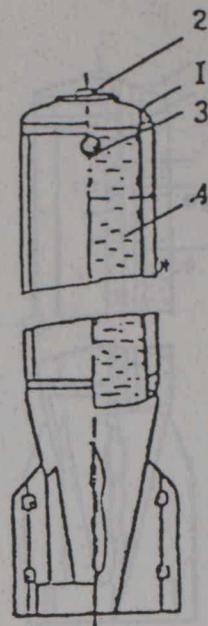


Combat characteristics

- |    |                               |   |
|----|-------------------------------|---|
| 1. | Purpose                       | To disable personnel through unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. | Calibre                       | 250 kg  |
| 3. | CW agent                      |   |
|    | Name                          | Viscous soman   |
|    | Combat condition              | Dense aerosol and droplets  |
| 4. | Method of CW agent dispersion | Opening of tank by means of bursting charge, fragmentation of CW agent by an inflow of air  |
| 5. | Fuse type                     | Time  |
| 6. | Weight of tank                | 130 kg  |
| 7. | Weight of CW agent            | 45 kg   |
| 8. | Filling coefficient           | 0.35  |
| 9. | Construction materials        | Steel, copper, aluminium  |

Figure 17. 250-kg chemical spray tank

1. Casing
2. Bursting charge
3. Filler hole
4. CW agent



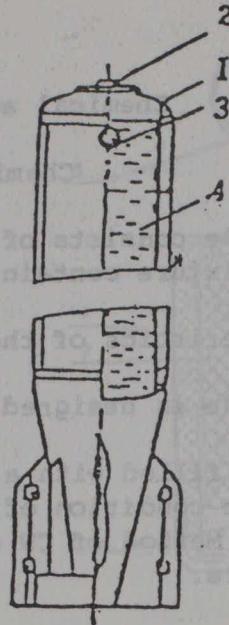
Combat characteristics

1. Purpose To disable personnel through respiratory organs and unprotected parts of the skin, and to contaminate matériel, terrain and engineering structures
2. Calibre 500 kg
3. CW agent
 

Name	Mixture of mustard gas and lewisite
Combat condition	Vapour, aerosol and droplets
4. Method of CW agent dispersion Opening of tank by means of bursting charge, fragmentation of CW agent by an inflow of air
5. Fuse type Time
6. Weight of tank 280 kg
7. Weight of CW agent 164 kg
8. Filling coefficient 0.59
9. Construction materials Steel, copper, aluminium

Figure 18. 500-kg chemical spray tank

1. Casing
2. Bursting charge
3. Filler hole
4. CW agent



### Combat characteristics

- |                                  |  |
|----------------------------------|--|
| 1. Purpose                       | To disable personnel through respiratory organs and unprotected parts of the skin, and to contaminate <u>matériel</u> , terrain and engineering structures |
| 2. Calibre                       | 1500 kg  |
| 3. CW agent                      |  |
| Name                             | Mixture of mustard gas and lewisite  |
| Combat condition                 | Vapour, aerosol and droplets   |
| 4. Method of CW agent dispersion | Opening of tank by means of bursting charge, fragmentation of CW agent by an inflow of air   |
| 5. Fuse type                     | Time   |
| 6. Weight of tank                | 963 kg   |
| 7. Weight of CW agent            | 630 kg   |
| 8. Filling coefficient           | 0.65   |
| 9. Construction materials        | Steel, copper, aluminium   |

Figure 19. 1500-kg chemical spray tank

Annex 7

Chemical agents for close combat

Chemical hand-grenade

The hand-grenade consists of a body with an outlet hole, an igniter set and pyrotechnical mixture containing a CW agent (figure 20).

Combat characteristics of the grenade.

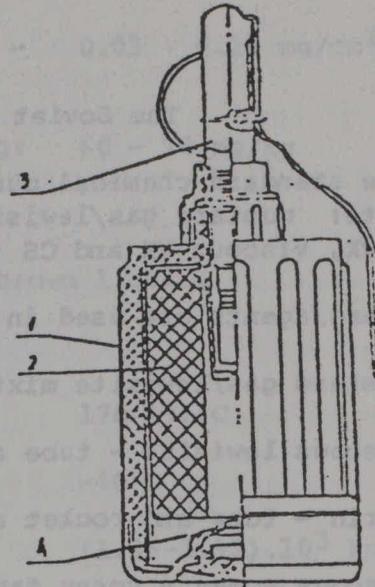
The hand-grenade is designed to incapacitate personnel temporarily.

The grenade is filled with a pyrotechnical mixture containing the CW agent CS. Combat condition of the CW agent when used - vapour and finely dispersed aerosol. Method of CW agent dispersion - sublimation from the pyrotechnical mixture.

Weight of the grenade - 0.25 kg. Weight of the pyrotechnical mixture - 0.17 kg.

Polyethylene, steel and aluminium are used in grenade construction.

1. Body
2. Pyrotechnical mixture containing CW agent
3. Igniter set
4. Outlet hole.



**Combat characteristics**

- |                                    |  |
|------------------------------------|--|
| 1. Purpose                         | To incapacitate personnel temporarily  |
| 2. CW agent                        | CS                                     |
| Name                               | CS                                     |
| Combat condition                   | Vapour and finely dispersed aerosol    |
| 3. Method of CW agent dispersion   | Sublimation from pyrotechnical mixture |
| 4. Weight of grenade               | 0.25 kg                                |
| 5. Weight of pyrotechnical mixture | 0.17 kg                                |
| 6. Construction materials          | Steel, aluminium, polyethylene         |

Figure 20. Chemical hand-grenade

Annex 8

The Soviet Army's chemical warfare agents

The standard chemical munitions placed on display contain the following CW agents: mustard gas/lewisite mixture, viscous lewisite, sarin, viscous soman, VX, viscous VX and CS (table 1).

These agents are used in the following equipment:

Mustard gas/lewisite mixture - aerial bombs and spray tanks;

Viscous lewisite - tube artillery shells;

Sarin - tube and rocket artillery shells and aerial bombs;

Viscous soman - spray tanks;

VX - tube and rocket artillery shells and tactical missile warheads;

Viscous VX - tactical missile warheads;

CS - chemical hand-grenades.

There are no binary chemical weapons in the Soviet Army.

Mustard gas/lewisite mixture.

The mustard gas/lewisite mixture is a dark brown liquid with a sharp, unpleasant odour.

Physico-chemical characteristics:

Boiling point:	Above 200°C
Freezing point:	-48.5 -50°C
Density:	1.428x10 <sup>3</sup> kg/m <sup>3</sup>
Volatility:	1.53x10 <sup>-3</sup> kg/m <sup>3</sup>
Dynamic viscosity:	8.7x10 <sup>-3</sup> Pa.s
Surface tension:	4.4x10 <sup>-2</sup> kg/s <sup>2</sup>
Diffusion coefficient:	5.83x10 <sup>-6</sup> m <sup>2</sup> /s.

The toxicological characteristics of this preparation are determined by the properties of its constituents, which are nerve and paralysing agents producing marked blister effects:

Ineffective dose on the skin of a rabbit:	0.0005 mg/cm <sup>2</sup>
Minimum effective dose on the skin of a rabbit:	0.005 mg/cm <sup>2</sup>

Minimum necrogenic dose on the skin of a rabbit: 0.05 - 0.10 mg/cm<sup>2</sup>

Absolutely lethal dose on the skin of a dog: 60 - 70 mg/kg

#### Viscous lewisite

Viscous lewisite is a highly viscous dark brown liquid.

#### Physico-chemical characteristics:

Boiling point: 170-196°C

Freezing point: -40°C

Density: (1.86-1.92) · 10<sup>3</sup> kg/m<sup>3</sup>

Dynamic viscosity: 30.0 × 10<sup>-2</sup> Pa.s

Volatility: 2.3 × 10<sup>-3</sup> kg/m<sup>3</sup>

Diffusion coefficient: 5.83 × 10<sup>-6</sup> m<sup>2</sup>/s

The effect produced by viscous lewisite is attributable to the toxic properties of its basic component, lewisite. Viscous lewisite produces its effects through the unprotected parts of the skin.

#### Toxicological characteristics:

Ineffective dose on the skin of a rabbit: 0.0005 - 0.001 mg/cm<sup>2</sup>

Minimum effective dose on the skin of a rabbit: 0.005 mg/cm<sup>2</sup>

Minimum necrogenic dose on the skin of a rabbit: 0.05 mg/cm<sup>2</sup>

Absolutely lethal dose on the skin of a dog: 30 mg/kg

#### Sarin

Sarin is a light yellow mobile liquid with a fruity smell.

#### Physico-chemical characteristics:

Boiling point: 147-151.5°C

Freezing point: -56°C

Density: 1.098 × 10<sup>3</sup> kg/m<sup>3</sup>

Volatility: 1.41 × 10<sup>-2</sup> kg/m<sup>3</sup>

Dynamic viscosity: 1.92 × 10<sup>-3</sup> Pa.s

Heat capacity: 1.911 kJ/kg.°C

Latent heat of evaporation:  $4.027 \times 10^2$  kJ/kg

Diffusion coefficient:  $5.92 \times 10^{-6}$  m<sup>2</sup>/s

Toxicologically, sarin is a nerve agent. It produces its effects after its introduction into the organism by any means.

**Toxicological characteristics:**

(Median toxic dose)

Intramuscularly, mg per kg of animal weight:

White mouse: 0.23

White rat: 0.074

Rabbit: 0.025

Guinea-pig: 0.037

Intravenously, mg per kg of animal weight:

Rabbit: 0.021

Guinea-pig: 0.019

By inhalation, 100 mg.min/m<sup>3</sup> for a rabbit.

**Viscous soman**

Viscous soman is a yellowish-brown, highly viscous liquid with a slight aromatic odour.

**Physico-chemical characteristics:**

Boiling point 190°C

Freezing point -80°C

Density:  $1.035 \times 10^3$  kg/m<sup>3</sup>

Volatility:  $2.65 \times 10^{-3}$  kg/m<sup>3</sup>

Dynamic viscosity:  $17.5 \times 10^{-2}$  Pa.s

Surface tension:  $2.65 \times 10^{-2}$  kg/s<sup>2</sup>

Diffusion coefficient:  $4.83 \times 10^{-6}$  m<sup>2</sup>/s

Heat capacity: 2.205 kJ/kg.°C

The toxic action of viscous soman is attributable to its basic component, soman, which is a nerve agent. Viscous soman produces its effects through its introduction into the organism by any means.

The median lethal dose for intravenous administration of soman is as follows:

Guinea-pig: 0.014 mg/kg

White mouse: 0.084 mg/kg

VX

VX is a dark brown liquid with a high boiling point.

Physico-chemical characteristics:

Boiling point: Above 300°C

Freezing point: Below -66°C

Density:  $1.014 \times 10^3 \text{ kg/m}^3$

Volatility:  $0.54 \times 10^{-5} \text{ kg/m}^3$

Dynamic viscosity:  $9.15 \times 10^{-3} \text{ Pa.s}$

Surface tension:  $2.96 \times 10^{-2} \text{ kg/s}^2$

Diffusion coefficient:  $4.0 \times 10^{-6} \text{ m}^2/\text{s}$

Heat capacity: 1.928 kJ/kg.°C

VX produces its effects when it is introduced into the organism by various means.

The median lethal dose is as follows:

Intravenously:

White mouse: 0.0220 mg/kg

Rabbit: 0.0064 mg/kg

Percutaneously:

White rat: 0.090 mg/kg

Cat: 0.011 mg/kg

Viscous VX

Viscous VX is a yellowish-brown dense liquid, the basic component of which is the CW agent VX.

Physico-chemical characteristics:

Boiling point:	Above 300°C
Freezing point:	Below -70°C
Density:	$1.025 \times 10^3$ kg/m <sup>3</sup>
Volatility:	$0.45 \times 10^{-5}$ kg/m <sup>3</sup>
Dynamic viscosity:	$15.8 \times 10^{-2}$ Pa.s
Surface tension:	$3.19 \times 10^{-2}$ kg/s <sup>2</sup>
Diffusion coefficient:	$3.8 \times 10^{-6}$ m <sup>2</sup> /s
Heat capacity:	1,930 kJ/kg.°C

The effects of viscous VX are similar to those of VX.

The median lethal dose for intravenous administration is as follows:

Cat:	0.0034 mg/kg
White rat:	0.0070 mg/kg

CS

CS is a crystalline substance which ranges from white to brown in colour and darkens when heated.

Physico-chemical characteristics:

Melting point:	93-95°C
Boiling point:	310-315°C
Weight by volume:	$1.6-3.2 \times 10^2$ kg/m <sup>3</sup>
Content of active agent:	Not less than 97 per cent
Moisture content:	Not more than 0.5 per cent
Decomposition point:	Above 625°C
Volatility:	$1.10^{-7}$ kg/m <sup>3</sup>

CS has a low toxicity level whatever the means of absorption. However, it produces a highly irritating effect on the respiratory organs and the eyes.

The median incapacitating dose absorbed by inhalation ranges from 1.0 to 5.0 mg.min/m<sup>3</sup>.

THE SOVIET ARMY'S CHEMICAL WARFARE AGENTS

CW agents	Types of chemical munitions
Blister gases	
Mustard gas/lewisite mixture	Aerial bombs Spray tanks
Viscous lewisite	Tube artillery shells
Nerve agents	
Sarin	Tube artillery shells Rocket artillery shells Aerial bombs
Viscous soman	Spray tanks
VX	Tube artillery shells Rocket artillery shells Tactical missile warheads
Viscous VX	Tactical missile warheads
Irritant	Chemical hand-grenades
CS	

Annex 9

Standard methods for determining the toxicity of CW agents

For the purpose of classifying super-toxic lethal chemicals, a methodology is proposed for determining their intravenous toxicity in rabbits.

Median lethal doses (LD<sub>50</sub>), expressed in mg per kg of animal weight, are used for evaluation purposes.

The trials are conducted in laboratory conditions with an air temperature of 18-22°C. Clinically healthy, fully grown animals weighing 2.0-2.5 kg (females and males in a 1:1 ratio) are selected for the experiment.

Each chemical is introduced into the rabbits in a water-acetone or water-alcohol solution. Acetone or alcohol is used to prepare the original mother liquor, which is then diluted with distilled water to produce solutions containing the dose of the tested chemical in 0.05 ml of the solution. 0.05 ml/kg of diluted solution is introduced into the rabbit's auricular vein.

In the first stage of the experiment, an evaluation is made of the dose range within which the median lethal dose of the chemical being studied falls. For this purpose, the substance is administered intravenously to the rabbit in increasing or decreasing doses according to the effect observed. The effect is recorded as either "died" or "survived". One rabbit is used for each dose.

After the chemical's toxicity range has been determined, the second stage of the experiment is carried out to determine the value of the median lethal dose. For this purpose four groups of six rabbits are required, three for test purposes and one control group. The test animals are given various doses of the chemical, and the control rabbits an equal amount of solvent.

The results of the intoxication are clinically observed for two days. An autopsy is performed on the animals that have died in order to determine the exact cause of death.

The median lethal dose is calculated by the probit method, which can be carried out either manually, by preparing a logarithmic chart, or on various types of computer, using appropriate programs.

The results indicating the intravenous toxicity of the super-toxic lethal chemicals are entered into a record which shows:

The date and time of the experiments;

Weather conditions;

Data concerning the chemical tested (classification number, place, date and order of selection of samples, external appearance, physico-chemical properties);

Dose of substance administered and effects observed;

Clinical description of the effects;

Calculated median lethal dose.

Following intravenous administration of the CW agent, the rabbits present a clinical picture of injury, agitation and tonic-clonic spasms.

Death occurs within a few minutes or hours, depending on the amount of the effective dose.

3. The chambers in which the CW agent are administered are used jointly.

4. The unit consists of the following components:

1. Chemical container for the CW agent.

2. Transport vehicle with trailer on which the chamber is mounted.

3. The chamber is used to administer the CW agent to the animals.

4. The chamber is used to administer the CW agent to the animals.

5. The chamber is used to administer the CW agent to the animals.

6. The chamber is used to administer the CW agent to the animals.

7. The chamber is used to administer the CW agent to the animals.

8. The chamber is used to administer the CW agent to the animals.

9. The chamber is used to administer the CW agent to the animals.

10. The chamber is used to administer the CW agent to the animals.

11. The chamber is used to administer the CW agent to the animals.

12. The chamber is used to administer the CW agent to the animals.

13. The chamber is used to administer the CW agent to the animals.

Annex 10

Mobile unit for the destruction of chemical weapons

Purpose, technical characteristics and principles governing the use of the mobile chemical weapon destruction unit

The unit is intended for the independent destruction in field conditions of chemical air-launched and artillery munitions and tactical missile warheads containing the nerve agents sarin, viscous soman, VX and viscous VX.

Depending on the nature and scale of the operation and the time available, several of these units can be used jointly.

Composition of the unit and its basic technical characteristics

The unit consists of the following components:

- |  |   |
|--|---|
| 1. Chemical monitoring equipment   | 1 |
| 2. Transport vehicle with trailer on which the "Neutral" installation is mounted | 1 |
| 3. Mobile chemical laboratory  | 1 |
| 4. Chemical tanker   | 2 |
| 5. Tractor   | 2 |
| 6. Burner  | 1 |
| 7. Power plant   | 1 |
| 8. Compressor  | 1 |
| 9. Transport vehicle   | 1 |
| 10. Shower unit  | 1 |

Principal technical characteristics of the unit:

Deployment time	10 hours
Manpower requirement	17 persons

Electricity consumption: power - 131 kW  
voltage - 380/220 V

Overall weight: 66.3 t

The unit can be moved to the destruction site under its own power, by air or by rail.

Preliminary reconnaissance is carried out in the area where the work is to be done with a view to guaranteeing the safety of the operation; arrangements are made for demarcation of the area and the protection and chemical monitoring of the environment.

The unit consists of the following components:

1. Chemical monitoring equipment checks any contamination of the air in the area of operations during the destruction of chemical weapons.
2. The "Neutral" installation neutralizes the CW agent; the feed level and the automatic maintenance of the required temperature are continuously checked.
3. The chambers in which the CW agents are removed are intended for opening up the casings of the munitions to be destroyed. There are three versions of the chambers, for small-calibre, medium-calibre and large-calibre munitions.
4. The mobile chemical laboratory is intended for carrying out analytical monitoring of the destruction of the CW agents and analysis of soil, vegetation and air samples in the area of operation.
5. The chemical tankers transport the material to be neutralized, transfer it to the "Neutral" installation and transport the neutralization products to the burner.
6. The burner is used for thermal decomposition of the CW agent neutralization products at a temperature of around 1,200°C.
7. The power plant provides the mobile unit with electric power. It has a capacity of 200 kW.
8. The compressor is used to provide the mobile unit with compressed air and also to fill tanks with compressed air for the incinerator.
9. The function of the lift trucks is to carry the munitions from the lorry to the CW agent removal chamber.
10. The shower facility is used for personal cleansing (washing) by the personnel operating the unit. The facility has two shower units each consisting of six cubicles.

The facility includes changing and washing rooms.

## Technology for the destruction of chemical munitions at the mobile unit

A flow chart for the destruction of air-launched and artillery munitions and warheads of tactical missiles filled with the nerve agents sarin, soman and VX at a mobile unit is shown in figure 21.

The calibres of the munitions to be destroyed range from 1 kg to 500.0 kg.

The arrangement comprises a chamber for removing CW agents, a "Neutral" neutralization unit, an ARS-14U chemical tanker, an IIG426 burner, an AL-4 mobile chemical laboratory, a lift truck, a casing neutralization chamber, a vacuum pump and instrumentation to control and monitor the operation of the unit and the state of the environment.

The destruction technology is essentially a thermochemical process involving neutralization of the CW agents and combustion of the neutralization products to form inorganic compounds in concentrations within the specified maximum permissible range.

The munitions to be destroyed are placed, depending on calibre, in one of the removal chambers (RM, RS and RK), which is connected by flexible pipes fitted with seals to the "Neutral" unit and the ARS-14U chemical tanker.

The munitions are opened in a hermetically sealed chamber by drilling a hole in the casing; obturation and evacuation of the CW agent into the "Neutral" reactor is then effected under a vacuum created by the vacuum pump.

The process of neutralization takes place at temperatures of 100-120°C over a period of 30-40 minutes.

The content of toxic substances in the reactive mass of sarin neutralization products is less than LD<sub>50</sub>, or 1,200 mg/kg, for a rabbit.

Once the reaction is completed, the neutralization products are pumped out of the "Neutral" reactor into the chemical tanker and fed into the burner.

The combustion of the neutralization products takes place at a temperature of around 1,200°C. The combustion products are carbon, sulphur and phosphorus oxides and hydrogen fluoride.

Neutralization of the munitions casing, after removal of the CW agents, is carried out in a separate chamber.

The basic functional components of the unit - the removal chamber, "Neutral" unit and casing neutralization chamber - are hermetically sealed, thus preventing toxic substances from being released into the environment.

The destruction process is monitored by steady-state instruments on control panels.

Analytical monitoring of CW agent content in the reactive mass, on the surface of equipment and in the air is carried out periodically in the AL-4 laboratory, and the ambient air in the working area is continuously monitored by means of gas indicators.

For safety reasons, personnel working on the mobile unit wear individual equipment to protect the respiratory organs and skin.

Personnel not less than 18 years of age who have suitable training and skills and are physically fit are allowed to work in the unit.

Before commencing a shift, the operating personnel undergo a compulsory medical check and are given instruction in safety procedures. The medical check is carried out by a specialist. Instruction in safety precautions is provided by a safety officer and training specialist.

Immediately before proceeding with the destruction of chemical weapons, the personnel assigned to carry out the process wear individual protective clothing for the skin and respiratory which is stored in a special chamber in a special chamber. A full set of individual protective clothing is required for work with damaged equipment. When working in technically sound chemical weapons, personnel are permitted to wear individual protective clothing, but must wear respirators. The degree of protection must be sufficient to prevent the possibility of the personnel being contaminated during the destruction of chemical weapons. When ambient air temperature is high, work is organized with shortened shifts.

The principal operations required by the technology are mechanized.

The agents and reagents are fed into the reactor and the reaction products are pumped out of the reactor and into the furnace for destruction. The chemical wastes are pumped into the furnace for destruction.

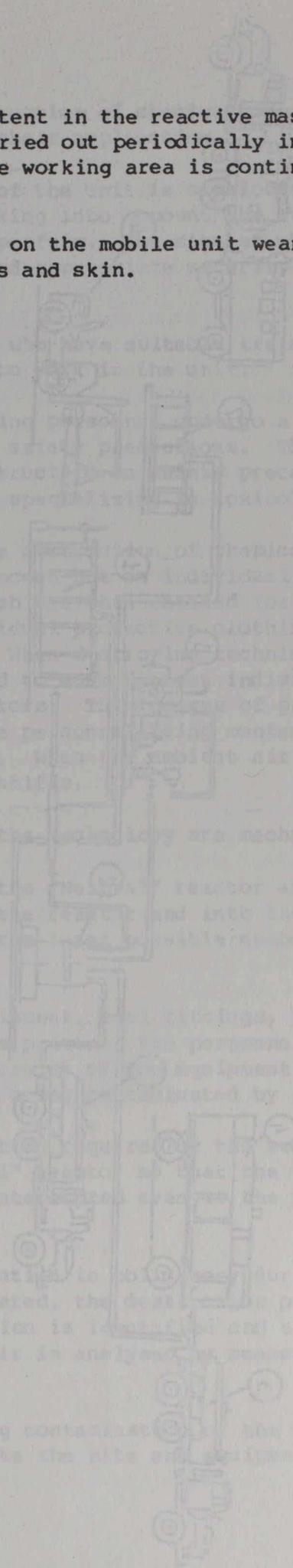
The design of the reactor and other equipment, including "initial" reactor and other gasolines and components, prevents the personnel from coming into contact with the agent and is equipped with a special device under various conditions to prevent the possibility of the personnel being contaminated by inhalation.

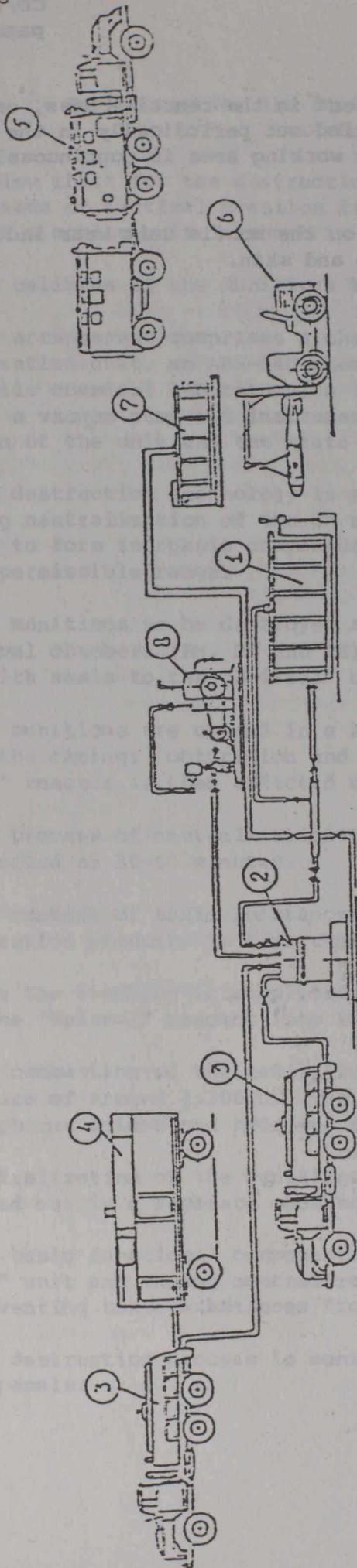
An obligation of the technology is to ensure that the technology is designed to ensure the safety of the personnel. The "initial" reactor is designed so that the process of destruction is carried out in a safe manner. The power supply is temporarily disconnected during the destruction process.

Continuous monitoring of the air in the working area is carried out during operation of the unit. If a contaminant is detected, the destruction process is halted and the air is purified. If a contaminant is detected, the air is analyzed by means of a rapid detector.

In the event of a breakdown involving contamination of the working area, the personnel must wear individual protective equipment.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.





1. CW agent removal chamber
2. "Neutral" neutralization unit
3. ARS-14U chemical tanker
4. IIG426 burner
5. AL-4 mobile chemical laboratory
6. Lift truck
7. Casing decontamination chamber
8. Vacuum pump

Figure 21. Destruction technology flow chart

## Safety arrangements during the destruction of chemical munitions at the mobile unit and their application

For reasons of safety, the equipment of the unit is stationed at an adequate distance from populated areas, taking into account the nature and scale of operations which the unit has to perform. The site at which the unit is located is declared a prohibited area and appropriate security arrangements are made.

Persons not less than 18 years of age who have suitable training and skills and are physically fit are allowed to work in the unit.

Before commencing a shift, the operating personnel undergo a compulsory medical check and are given instruction in safety precautions. The medical check is carried out by a specialist. Instruction in safety precautions is provided by a safety engineer and a doctor specializing in toxicology.

Immediately before proceeding with the destruction of chemical weapons, the personnel assigned to carry out the process put on individual protective clothing for the skin and respirators, which are then checked for airtightness in a special chamber. A full set of individual protective clothing is required for work with damaged munitions. When destroying technically sound chemical munitions, personnel are permitted to work without individual protective clothing, but must wear respirators. This degree of protection completely precludes the possibility of the personnel being contaminated during the destruction of chemical weapons. When the ambient air temperature is high, work is organized with shortened shifts.

The principal operations required by the technology are mechanized.

The agents and reagents are fed into the "Neutral" reactor and the neutralization products are pumped out of the reactor and into the furnace for combustion by the chemical tankers, using the least possible number of personnel.

The design of the removal chamber equipment, seal fittings, "Neutral" reactor and other assemblies and components prevents the personnel from coming into contact with the droplet gas, and operation of the equipment under vacuum precludes the possibility of the personnel being contaminated by inhalation.

An obligatory and high-priority operation required by the technology is the maintenance of a vacuum in the "Neutral" reactor so that the process of destruction of the CW agents need not be interrupted even if the power supply is temporarily disconnected.

Continuous monitoring of air contamination is obligatory during operation of the unit. If a warning device is activated, the destruction process is halted and the cause of the air contamination is identified and eliminated. If the power supply is disconnected, the air is analysed by means of a rapid detector.

In the event of an emergency involving contamination of the working area, the chemical tanker is used to decontaminate the site and equipment.

Once the work has been completed, the extent of any contamination is checked and individual protective clothing is specially treated. Where such clothing has come into contact with droplet gas, it is packed into hermetically sealed containers and sent to the decontamination centre.

After removing their protective clothing, the personnel are processed in a disinfection and medical checkpoint.

Thus, the equipment design of the unit, the constant medical supervision and the reliable individual protective clothing used during the operations completely preclude the possibility of contamination of the unit's crew and the population of nearby areas and ensure a high degree of environmental safety.

Verification of the completeness of the destruction of chemical weapons at the mobile unit, and environmental protection measures

The main aim of environmental protection measures relating to the operation of the mobile chemical weapon destruction unit is to prevent pollution of the atmosphere, soil, water and vegetation by CW agents and by their neutralization products.

This is achieved in the following way:

First, the airtightness of the unit's equipment completely prevents CW agents from entering the atmosphere;

Second, the destruction process involves the chemical transformation and decomposition of the CW agents and neutralization products to safe concentrations as specified by the health authorities.

The destruction of 1 t of CW agent produces slightly more than 2 m<sup>3</sup> of liquid waste, which is rendered environmentally harmless after combustion.

The safety measures include monitoring of the destruction process and environmental monitoring.

Annex 11

Instructions for the use of protective equipment

Ladies and Gentlemen, Comrades,

You have been issued with respirators. Respirators provide reliable protection against the action of chemicals. They must fit properly, so before being issued with a respirator each of you will have the circumference of his or her head measured vertically and horizontally.

The respirators are tested by determining their airtightness in protecting the sense organs in air containing an irritant.

The agent used to test the respirators irritates the mucous membranes of the eyes, the respiratory organs and the exposed, and especially moist, parts of the skin.

The irritation has no lasting effects. If the agent enters the eyes, the result will be strong lachrymation that can be stopped by washing the eyes with water.

If the agent enters the respiratory organs, the result will be a burning sensation in the nasopharynx, combined with sneezing and coughing. To stop this you must rinse your throat with water and take several deep breaths of fresh air.

Should the agent come into contact with the skin, the result will be a burning sensation. If this happens, you are not advised to rub the affected parts with the hands. The burning sensation will pass after 5-10 minutes.

Those persons who are to observe the unit in operation directly must not remove the respirators after they have been checked for airtightness. Those who will be watching the unit in operation on closed-circuit television do not need to wear respirators.

The respirator consists of a mask and a filter canister.

To check the airtightness of the respirator, you must:

1. Remove the respirator from the carrier and put it on, as follows:

Take two side straps in each hand and pull them to the side;

Place the chin in the lower cavity of the facepiece;

Pull the mask over the head by moving your hands up and back;

Straighten the mask and straps and smooth out the material of the facepiece.

2. Put on the tunic.

3. Go to the chamber containing the irritant substance and stand facing the canvas sleeve at a distance of one metre.

4. When directed by the instructor to "Begin test":

Approach the sleeve and open it;

With the respirator fitted, introduce your head into the chamber through the sleeve;

Carefully take a short breath and, if you feel no irritation of the respiratory organs or eyes, continue to inhale, taking deep breaths and turning the head.

5. When directed by the instructor to "End test":

Release the sleeve;

Withdraw your head from the chamber;

Tighten the cord on the sleeve;

Move upwind;

Remove the respirator and place it in the carrier;

Remove the tunic and wash your hands.

5. The position of the respirator straps must not be altered without authorization after the airtightness test.

7. If you feel any irritation of the respiratory organs or eyes when testing the respirator in the chamber:

Immediately move away from the chamber;

Go upwind;

Remove the respirator and ask the instructor for guidance.





LETTER DATED 12 JANUARY 1988 FROM THE REPRESENTATIVE OF THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE STATEMENT OF 26 DECEMBER 1987 BY THE MINISTRY OF FOREIGN AFFAIRS OF THE UNION OF SOVIET SOCIALIST REPUBLICS

I have the honour to transmit herewith the text of the statement of 26 December 1987 by the Ministry of Foreign Affairs of the USSR.

I should be grateful if you would circulate it as an official document of the Conference on Disarmament.

(Signed): Ambassador Y. Nazarkin  
Representative of the USSR  
to the Conference on Disarmament

In their attempt to justify the production of binary weapons in the eyes of world public opinion, American representatives usually refer to what they allege is the chemical threat from the Soviet Union. To this end, they cite utterly spurious "data" regarding stockpiles of chemical weapons in the USSR. They assert that these stockpiles amount to between 25,000 and 50,000 tonnes of chemical warfare agents and that the capability of the USSR in this field is many times superior to that of the United States. Such a claim must be brought to an end. The Ministry of Foreign Affairs of the USSR is authorized to state that the Soviet Union's stock of chemical weapons comprises no more than 20,000 tonnes of chemical warfare agents. That according to estimates by Soviet experts, roughly corresponds to the stockpiles of chemical weapons held by the United States. In addition, all Soviet chemical weapons are kept within the territory of the USSR. Those who speculate about the Soviet chemical threat deliberately ignore the fact that it is precisely the Soviet Union which has been consistently endeavouring at the Geneva talks to achieve the earliest possible complete

Statement by the Ministry of Foreign Affairs of the USSR

On 16 December 1987, the United States of America began manufacturing a new generation of chemical weapons - binary weapons. A totally unprovoked step has thus been made towards a further escalation of the chemical arms race.

This militaristic action was taken despite the fact that considerable progress has been achieved at the Geneva negotiations on the complete and general prohibition and destruction of chemical weapons, thereby bringing much closer the goal of ridding mankind of the chemical threat. Moreover, at the summit meeting in Washington a week earlier, the American leadership had expressed its commitment to the elaboration of a verifiable comprehensive and effective international convention on the prohibition and destruction of chemical weapons and had agreed on the need for more intensive negotiations with a view to concluding it.

The inevitable conclusion is that, having embarked upon a course of rearming with binary chemical weapons, the United States is about to make a choice uncondusive to agreement on chemical disarmament. The binary weapons programme is obviously the reason why the United States has recently been slowing down the negotiations of the prohibition of chemical weapons in Geneva.

The American binary weapons programme is also by no means consistent with the emerging process of confidence-building in the field of chemical weapons, manifestations of which have been the very recent tour by the participants in the negotiations, including the United States, of the Soviet military facility at Shikhany and the visit by Soviet experts to the American chemical weapons facility at Tooele, Utah.

However, these are not the only negative consequences of the fact that the United States has begun to rearm with binary weapons. Although in words the United States loudly declares its concern about the possibility of other States acquiring chemical weapons, through its deeds it is in fact contributing to the proliferation of chemical weapons by setting a bad example to those countries which are not yet manufacturing them.

In their attempts to justify the beginning of the manufacture of binary weapons in the eyes of world public opinion, American representatives usually refer to what they allege is the chemical threat from the Soviet Union. To this end, they cite utterly fantastic "data" regarding stockpiles of chemical weapons in the USSR. They assert that these stockpiles amount to between 250,000 and 700,000 tonnes of chemical warfare agents and that the capability of the USSR in this field is many times superior to that of the United States.

Such deceit must be brought to an end. The Ministry of Foreign Affairs of the USSR is authorized to state that the Soviet Union's stocks of chemical weapons comprise no more than 50,000 tonnes of chemical warfare agents. That, according to estimates by Soviet experts, roughly corresponds to the stockpiles of chemical weapons held by the United States. In addition, all Soviet chemical weapons are kept within the territory of the USSR.

Those who speculate about the Soviet chemical threat deliberately ignore the fact that it is precisely the Soviet Union which has been consistently endeavouring at the Geneva talks to achieve the earliest possible complete

prohibition of chemical weapons and the destruction of all stockpiles of chemical weapons and of the very infrastructure for manufacturing such weapons, and that it has been calling for the process of chemical disarmament to take place under the most stringent international control, including mandatory on-site inspections upon request without the right of refusal. The USSR is in favour of confidence-building and openness in the field of chemical weapons. Our specific proposals for a reciprocal exchange of data on chemical weapons even before the signing of a convention have been submitted to the American side. The Soviet Union has stopped manufacturing chemical weapons and has never used such weapons, or placed them in others' hands or deployed them outside its own borders. In preparation for the conclusion of a convention, work is actively being undertaken in our country to set up facilities for destroying the entire chemical arsenal.

All these facts show that the start of binary chemical weapons manufacture in the United States is nothing less than an attempt to torpedo the process of chemical disarmament and a sign of contempt for the efforts of the States participating within the Conference on Disarmament in the multilateral negotiations on the prohibition of this type of weapon of mass destruction and for the repeated calls by the United Nations General Assembly to accelerate those negotiations. The United States binary weapons programme runs counter to the aspirations of the world's peoples, who are hoping that, after the conclusion of the Treaty between the USSR and the United States on the elimination of medium- and shorter-range missiles, the cause of real disarmament will be advanced on all fronts.

The Soviet Union condemns this action by the United States and believes that it creates a new situation in the field of chemical weapons which may require the adoption of appropriate measures. At the same time, the USSR will continue to do everything in its power to prevent a breakdown of the negotiations in Geneva, an outcome which the United States is promoting by its deeds.

The Soviet Union counts on the understanding and support of all countries that are in favour of ridding mankind of the barbaric phenomenon of chemical weapons.







25 January 1988

Original: ENGLISH

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Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

Working PaperVerification of Non-production: The case for Ad Hoc checks

1. According to the system developed by the Conference, verification of non-production should be carried out through exchanges of data and, in the case of Lists 1 and 2, through permanent or random on-site inspections. In this context, we should like to recall our proposals for the development of an effective and practicable system of data exchange, which were aimed at the establishment of an efficient reporting system (CD/CW/WP.159 dated 19 March 1987).

The graded intrusiveness of the verification measures is in line with the respective levels of relevance to a CW ban of the substances contained in Lists 1 to 3 and entails concentration of controls on the main areas. This approach should be adhered to in the interests of effective verification. The envisaged system is a suitable means of creating sufficient transparency regarding the use of the reported substances.

It was clear, however, from the outset that these controls could only bite if the comprehensive reporting obligations provided for in the text of the Convention were complied with. Hence, there could be grounds for concern that non-declared use of substances subject to controls under Article VI might remain undetected. Such violations of the Convention are conceivable in two types of facilities - on the one hand in facilities already covered on the basis of their reported use of other substances from Lists 2 and 3, and on the other hand in plants not reported as production facilities for controllable substances which have thus remained outside the system of verification provided for in Article VI.

2. For facilities of the former category, routine inspections and the politically significant instrument of challenge inspections initiated by States parties are the available means of clarifying suspected violations of the Convention. For facilities of the latter category verification can be carried out by means of challenge inspections alone. On the basis of the groundwork done by other delegations, particularly the Australian observations on spot checks (CD/698), we believe it is worth considering additional provision for a form of Ad hoc check which the international authority could manage easily on a routine basis as follows:

The international authority should be empowered (under a system analogous to the right to query unclear data envisaged in paragraph 5 of our Working Paper CD/CW/WP.159) to carry out on its own initiative Ad hoc checks at short notice in production facilities of the chemical industry. These checks should serve solely to ascertain whether, at the time of the check, substances listed in the Annexes to Article VI and not reported for the facility in question were being produced there.

If the production of such substances is ascertained, their amount should then be investigated. In this way it can be established whether the Convention has been violated through production of an amount in excess of the thresholds for reporting.

We believe that with the aid of this instrument, directed against the major sources of concern regarding potential violation of a CW ban, a maximum degree of additional transparency, and hence of additional confidence in the reliability of all parties' compliance with the Convention, can be achieved.





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Ad hoc Committee on Chemical Weapons

## FEDERAL REPUBLIC OF GERMANY

Working PaperSuper-toxic Lethal Chemicals (STLCs)

1. The vigorous efforts made by the Conference to ensure verification of STLCs stem from the idea of registering any future militarily relevant developments in the field of chemical production. This aim is to be achieved through the inclusion in an appropriate verification system of production facilities which are also suited to the production of super-toxic lethal chemicals. The identification of the facilities in question would presuppose a definition to that effect, which does not exist and upon which it would be difficult to reach agreement. It is therefore advisable to envisage actual production, at least of certain types of STLC, as evidence of suitability, i.e. to cover production facilities which already produce STLCs. This is the approach proposed in CD/782.
2. Another issue is the selection of the relevant STLCs. It has not proved possible so far to establish a list in line with the system applied in Annexes 1, 2 and 3 to Article VI. Annex 4 to Article VI is therefore aimed at a definition of STLCs, thereby making this definition a central issue. If the same methods of determination, and hence the same contractual obligations, were to be preserved, the definition contained in Annex 4 would have to be supplemented by standardized operation procedures for acute subcutaneous toxicity determinations, as defined in CD/500 (Annex III, pp.6-7).

However, if those criteria were applied, figures for subcutaneous and inhalatory toxicity measured in rats will be available for only a limited number of substances. The result will be that industry and government in

States parties will not know whether a large number of substances are subject to the convention or not. Parties would need to test innumerable substances under conditions such as those laid down in CD/500 in order to obtain a clear picture of the scope of their contractual obligations. The effort and expenditure involved would be immense, particularly in respect of inhalatory toxicity.

We therefore believe that the Conference should accept the task of drawing up a list of relevant STLCs on the basis of research work, which several delegations have surely undertaken, since it is only in this way that the parties' obligations can be defined with the necessary precision. So that the most comprehensive possible security can be obtained against any future STLC production, this list should focus on toxicity alone. The inclusion of other criteria would be difficult in view of the limited state of knowledge about many relevant substances.

3. As our contribution, we have annexed to this paper the findings of research carried out with a data bank, using the criteria contained in CD/500. This identified a total of 39 compounds which can be termed relevant to the convention on the prohibition of chemical weapons (Annex). \*/ This preselection requires comparative checking under the standardized conditions set forth in CD/500. The number of compounds identified by us could be modified in the course of further discussions among the experts and possibly supplemented with further compounds. The crucial point is that such a list would create clarity regarding the scope of the reporting obligations and of the further controls which should be accepted.

In this group the requisite yardstick of military relevance should be the amount of commercial production alone. Insignificant production levels could be excluded through agreement on appropriate threshold figures.

In this way a coherent system of controls could be created for STLCs, too, as is largely the case for the substances listed in Annexes 1, 2 and 3.

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\*/ Four of them are already in List 1 of Annex VI - CD/782. (Sarin is eligible for inclusion as a result of both its subcutaneous and inhalatory toxicity ratings.)

STLC Compounds

(LD50 values in rats, subcutaneous, &lt;0,5 mg/kg)

1. Sarin
2. Soman
3. Tabun
4. VX
5. Alcuroniumchlorid
6. Calcitriol
7. Alfacalcidol
8. Neostigminbromid
9. Tubocurarin-Hydrochlorid
10. Pipecuriumbromid
11. Pancuroniumdibromid
12. 1,1'-((2-Beta,3-alpha,5-alpha,16-beta,17-beta)-3,17-bis(acetyloxy)androstan-2,16-diyl)bis(1-methylpiperidiniumbromid)
13. Armin
14. Phospholin
15. Acetoxycycloheximid
16. (3-Hydroxyphenyl)diethylmethylammoniumjodid, Methylcarbamat
17. (3-Hydroxy-p-tolyl)trimethylammoniumchlorid, Methylcarbamat
18. (4-Hydroxy-o-cumenyl)trimethylammoniumchlorid, Methylcarbamat
19. Methyl-cyclohexylfluorosphonat
20. Dimefox
21. Paraoxon
22. Diethyl-S-(2-diethylaminoethyl)thiophosphat
23. Tetraethylpyrophosphat
24. Chlorpeptid
25. Palytoxin

Annex 2

STLC Compounds

(LCt 50 values in rats, inhalation, < 2,000 mg/m<sup>3</sup>/min)

1. Sarin
2. Tris(2-chlorethyl)amin
3. Bis(2-chlorethyl)sulfid
4. Sesquimustard
5. 2-Chlorethyl-fluoracetat
6. 2-Fluorethanol
7. 2-Fluorethyl-fluoracetat
8. Phorat
9. 4-Ethyl-1-phospha-2,6,7-trioxabicyclo(2.2.2)octan-1-oxid
10. Methyl-N-(2-chlorethyl)-N-nitrosocarbamat
11. p-Methylurethanbenzolsulfonhydrazid
12. Dimethyldisulfid
13. Methylvinylketon
14. Nickeltettracarbonyl
15. Polytetrafluorethylen(Pyrolysat)

Explanatory notes on Annexes 1 and 2

The research on substances with a subcutaneous toxicity of  $\leq 0.5$  mg/kg in rats or an inhalatory toxicity of  $\leq 2,000$  mg/m<sup>3</sup>/min in rats was carried out in the RTECS (Registry of Toxic Effects of Chemical Substances) data bank. The RTECS is a data bank of the National Institute for Occupational Health (NIOSH) in Cincinnati, United States of America, in which data on the toxicity of chemical substances from the widest range of sources are stored without checks on findings and can be retrieved, with predefined threshold values, by the user.

Account could not be taken during research work of the degree of accuracy with which the toxicity values had been defined. Nor were the parentage, sex and weight of the laboratory animals taken into consideration. Findings of post-experimental observation were also left out of account. Which of the researched substances are actually STLC compounds as defined in the toxicity provisions recommended in Annex III to CD/500 can only be ascertained by means of experimental verification, which may result in divergent findings.







LETTER DATED 21 JANUARY 1988 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-SECOND SESSION

I have the honour to transmit herewith the texts of the resolutions adopted by the General Assembly at its forty-second session, which entrust specific responsibilities to the Conference on Disarmament in 1988. The relevant provisions of those resolutions are reproduced in the annex.

For the information of the Conference, I also have the honour to transmit herewith other resolutions and a decision dealing with or relating to disarmament matters which were adopted by the General Assembly at its forty-second session.

(Signed) Javier Pérez de Cuéllar

(7) In resolution 42/37 A, operative paragraph 1 takes note with satisfaction the work of the Conference on Disarmament during its 1987 session regarding the prohibition of chemical weapons, and in particular appreciates the progress in the work of its Ad Hoc Committee on Chemical Weapons on that question and the tangible results recorded in its report; operative paragraph 3 urges again the Conference on Disarmament, as a matter of high priority, to intensify, during its 1988 session, the negotiations on a convention on the complete and effective prohibition of the development, production and stockpiling of all chemical weapons and to reinforce further its efforts by, inter alia, increasing the time during the year that it devotes to such negotiations, taking into account all existing proposals and future initiatives, with a view to the final elaboration of a convention at the earliest possible date, and to re-establish its Ad Hoc Committee on Chemical Weapons for this purpose with the mandate to be agreed upon by the Conference on Disarmament at the beginning of its 1988 session; and operative paragraph 4 requests the Conference on Disarmament to report to the General Assembly at its forty-third session on the results of its negotiations.

(continued)



General Assembly

Distr.  
GENERAL

A/RES/42/37  
22 December 1987

Forty-second session  
Agenda item 61

RESOLUTIONS ADOPTED BY THE GENERAL ASSEMBLY

[on the report of the First Committee (A/42/750)]

42/37. Chemical and bacteriological (biological) weapons

A

Chemical and bacteriological (biological) weapons

The General Assembly,

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

Reaffirming the urgent necessity of strict observance by all States of the principles and objectives of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, 1/ and of the adherence by all States to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed in London, Moscow and Washington on 10 April 1972, 2/

Taking note of the Final Document of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their

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

2/ Resolution 2826 (XXVI), annex.

Destruction, adopted by consensus on 26 September 1986, 3/ and in particular of article IX of the Final Declaration of the Conference, 4/

Having considered the report of the Conference on Disarmament, 5/ which incorporates, inter alia, the report of its Ad Hoc Committee on Chemical Weapons, 6/ and noting that following the precedents set over the past three years, consultations are continuing during the inter-sessional period, thus increasing the time devoted to negotiations,

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

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

Noting further with appreciation the efforts made at all levels by States to facilitate the earliest conclusion of a convention and, in particular, the concrete steps designed to promote confidence and to contribute directly to that goal,

Wishing to encourage Member States to take further initiatives to promote confidence and openness in the negotiations and to provide further information to facilitate prompt resolution of outstanding issues, thus contributing to an early agreement on the convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction,

1. Takes note with satisfaction of the work of the Conference on Disarmament during its 1987 session regarding the prohibition of chemical weapons, and in particular appreciates the progress in the work of its Ad Hoc Committee on Chemical Weapons on that question and the tangible results recorded in its report;

2. Expresses again none the less its regret and concern that notwithstanding the progress made in 1987, a convention on the complete and effective prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction has not yet been elaborated;

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3/ BWC/CONF.II/13.

4/ Ibid., part II.

5/ Official Records of the General Assembly, Forty-second Session, Supplement No. 27 (A/42/27).

6/ Ibid., para. 79.

3. Urges again the Conference on Disarmament, as a matter of high priority, to intensify, during its 1988 session, the negotiations on such a convention and to reinforce further its efforts by, inter alia, increasing the time during the year that it devotes to such negotiations, taking into account all existing proposals and future initiatives, with a view to the final elaboration of a convention at the earliest possible date, and to re-establish its Ad Hoc Committee on Chemical Weapons for this purpose with the mandate to be agreed upon by the Conference at the beginning of its 1988 session;

4. Requests the Conference on Disarmament to report to the General Assembly at its forty-third session on the results of its negotiations.

84th plenary meeting

30 November 1987

B

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

The General Assembly,

Recalling its resolution 2826 (XXVI) of 16 December 1971, in which it commended the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction and expressed the hope for the widest possible adherence to the Convention,

Recalling its resolution 39/65 D of 12 December 1984, in which it noted that, at the request of a majority of States parties to the Convention, a second Review Conference of the Parties to the Convention would be held in 1986,

Recalling that the States parties to the Convention met at Geneva from 8 to 26 September 1986 to review the operation of the Convention with a view to assuring that the purposes of the preamble to and the provisions of the Convention, including the provisions concerning negotiations on chemical weapons, were being realized,

Recalling also its resolution 41/58 A of 3 December 1986, in which it, inter alia, noted with appreciation that on 26 September 1986, the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction adopted by consensus a Final Declaration, 4/

Noting with satisfaction that, at the time of the Second Review Conference of the Parties to the Convention, there were more than a hundred States parties to the Convention, including all the permanent members of the Security Council,

/...

1. Notes with appreciation that, in accordance with the Final Declaration of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, an Ad Hoc Meeting of Scientific and Technical Experts from States parties to the Convention was held at Geneva from 31 March to 15 April 1987, which adopted by consensus a report 7/ finalizing the modalities for the exchange of information and data agreed to in the Final Declaration, thus enabling States parties to follow a standardized procedure;
2. Notes that the Ad Hoc Meeting of Scientific and Technical Experts from States parties to the Convention agreed in its report that the first exchange of information and data should take place not later than 15 October 1987 and that thereafter information to be given on an annual basis should be provided through the Department for Disarmament Affairs of the Secretariat not later than 15 April;
3. Notes with satisfaction that the first such exchange of information and data has commenced;
4. Requests the Secretary-General to render the necessary assistance and to provide such services as may be required for the implementation of the relevant parts of the Final Declaration;
5. Calls upon all signatory States that have not ratified or acceded to the Convention to do so without delay, and also calls upon those States which have not yet signed the Convention to join the States parties thereto at an early date, thus contributing to the achievement of universal adherence to the Convention and to international confidence.

84th plenary meeting  
30 November 1987

C

Measures to uphold the authority of the 1925 Geneva Protocol and  
to support the conclusion of a chemical weapons convention

The General Assembly,

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

Recalling also the necessity of the adherence by all States to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed in London, Moscow and Washington on 10 April 1972, 2/

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7/ BWC/CONF.II/EX/2.

Reiterating its concern over reports that chemical weapons have been used and over indications of their emergence in an increasing number of national arsenals, as well as over the growing risk that they may be used again,

Noting with satisfaction that the Conference on Disarmament is actively engaged in negotiating a convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction, 8/ including detailed provisions for the on-site verification of compliance with the convention, and expressing its support for the early and successful conclusion of those negotiations,

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

Expressing its appreciation for the work of the Secretary-General, and noting the procedures available to him in support of the principles and objectives of the 1925 Geneva Protocol,

1. Renews its call to all States to observe strictly the principles and objectives of the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, and condemns all actions that violate this obligation;
2. Urges all States to be guided in their national policies by the need to curb the spread of chemical weapons;
3. Recognizes the need, upon the entry into force of a chemical weapons convention, to review the modalities available to the Secretary-General for the investigation of reports of the possible use of chemical weapons;
4. Requests the Secretary-General to carry out investigations in response to reports that may be brought to his attention by any Member State concerning the possible use of chemical and bacteriological (biological) or toxin weapons that may constitute a violation of the 1925 Geneva Protocol or other relevant rules of customary international law in order to ascertain the facts of the matter, and to report promptly the results of any such investigation to all Member States;
5. Requests the Secretary-General, with the assistance of qualified experts provided by interested Member States, to develop further technical guidelines and procedures available to him for the timely and efficient investigation of such reports of the possible use of chemical and bacteriological (biological) or toxin weapons;

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8/ See Official Records of the General Assembly, Forty-second Session, Supplement No. 27 (A/42/27), sect. III.D.

6. Also requests the Secretary-General, in meeting the objectives set forth in paragraph 4 above, to compile and maintain lists of qualified experts provided by Member States whose services could be made available at short notice to undertake such investigations, and of laboratories with the capability to undertake testing for the presence of agents the use of which is prohibited;

7. Further requests the Secretary-General, in meeting the objectives of paragraph 4 above:

(a) To appoint experts to undertake investigation of the reported activities;

(b) Where appropriate, to make the necessary arrangements for experts to collect and examine evidence and to undertake such testing as may be required;

(c) To seek, in any such investigation, assistance as appropriate from Member States and the relevant international organizations;

8. Requests Member States and the relevant international organizations to co-operate fully with the Secretary-General in the above-mentioned work;

9. Requests the Secretary-General to submit a report to the General Assembly at its forty-third session on the implementation of the present resolution.

84th plenary meeting  
30 November 1987





# CONFERENCE ON DISARMAMENT

CD/794  
27 January 1988

Original: ENGLISH, FRENCH  
and RUSSIAN  
(Extract)

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LETTER DATED 26 JANUARY 1988 FROM THE PERMANENT REPRESENTATIVE OF THE CZECHOSLOVAK SOCIALIST REPUBLIC TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE DOCUMENT ENTITLED "TOWARDS INCREASING THE EFFECTIVENESS OF THE CONFERENCE ON DISARMAMENT IN GENEVA" ADOPTED AT THE SESSION OF THE COMMITTEE OF THE MINISTERS OF FOREIGN AFFAIRS OF THE WARSAW TREATY MEMBER STATES HELD IN PRAGUE ON 28 AND 29 OCTOBER 1987

I have the honour to transmit herewith the text of the document entitled "Towards Increasing the Effectiveness of the Conference on Disarmament in Geneva" adopted at the Session of the Committee of the Ministers of Foreign Affairs of the Warsaw Treaty Member States, held in Prague on 28 and 29 October 1987.

I should be grateful if you would take the measures necessary to have this text circulated as an official document of the Conference on Disarmament.

(Signed) Miloš Vejvoda  
Ambassador  
Permanent Representative

Towards increasing the effectiveness of the  
Conference on Disarmament in Geneva

Being firmly convinced that lasting peace and reliable security for all can be attained solely by political means, the member States of the Warsaw Treaty consider it of fundamental importance to ensure maximum effectiveness of the entire existing system of disarmament negotiations. Both bilateral and multilateral talks on security and disarmament must be centred upon questions relating to the halting of the nuclear arms race and to nuclear disarmament. It is necessary to activate the efforts of all States towards building up a nuclear-weapon-free and non-violent world.

The Conference on Disarmament in Geneva, in the work of which States of all continents, with different socio-economic systems, members of politico-military alliances, non-aligned and neutral countries, all the nuclear powers as well as non-nuclear-weapon countries have been participating on a footing of equality, has a special role to play in this endeavour.

That multilateral forum has proved that if political will is displayed on the part of States it is capable of performing the function of an organ negotiating in a concrete and effective manner formulation of measures and agreements in the sphere of disarmament. Thanks to the conference, such significant instruments of international law as the treaties on the non-proliferation of nuclear weapons, on the prohibition of the emplacement of nuclear weapons on the sea-bed and the ocean floor and the conventions on the prohibition of bacteriological weapons and on the prohibition of military use of environmental modification techniques have been prepared.

Yet, the results of the work of the Geneva forum in recent years have been far from being fully corresponding to the requirements of time.

The States participating in the session propose to concentrate the efforts at the present stage of the work of the Conference on Disarmament on the solution of the following crucial issues:

Completion of the drafting of the convention on the prohibition and destruction of chemical weapons. The member States of the Warsaw Treaty consider the speediest possible prohibition and elimination of chemical weapons to be one of the primary goals of their foreign policy. In this connection, they recall their statement adopted in Moscow in March 1987 as well as other significant initiatives. The work on the convention is coming close to the final stage. There is every prerequisite for its successful completion in the near future. The States participating in the session are ready for constructive co-operation with their partners in negotiations with the view of overcoming the remaining obstacles so as to make it possible to proceed soon to general and complete elimination of chemical weapons and of the industrial base for their production.





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Report of the Ad Hoc Committee on Chemical Weapons  
to the Conference on Disarmament on its work during  
the period 12-29 January 1988

I. INTRODUCTION

1. In accordance with the decision taken by the Conference on Disarmament at its 434th plenary meeting held on 27 August 1987, the Ad Hoc Committee on Chemical Weapons resumed its work on 12 January 1988 under the Chairmanship of Ambassador Rolf Ekéus (Sweden). Mr. Abdelkader Bensmail, Senior Political Affairs Officer of the Department for Disarmament Affairs, continued to serve as Secretary of the Committee.
2. The Ad Hoc Committee held six meetings from 12-29 January 1988. In accordance with the recommendations of the Ad Hoc Committee, as contained in its Report to the Conference on Disarmament (CD/782), private consultations were conducted in Geneva by the Chairman, with delegations present, during the period 23-27 November 1987 and open-ended consultations of the Ad Hoc Committee were held between 30 November and 16 December 1987 in preparation for the resumed session.
3. The representatives of the following States not members of the Conference participated in the work of the Ad Hoc Committee: Austria, Denmark, Finland, New Zealand, Norway, Portugal, Spain, Switzerland and Turkey.

II SUBSTANTIVE WORK DURING THE RESUMED SESSION

4. In accordance with its mandate, the Ad Hoc Committee continued its work on the Convention. In particular, it considered the Annex to Article IV; Article VI and its Annexes; Article VIII; Article IX; Article X; and Article XI, utilizing Appendices I and II of the Report on its work in 1987 (CD/782), as well as proposals made by delegations, the Chairman of the Committee; by Mr. Philippe Nieuwenhuys of Belgium, Co-ordinator of Cluster I (issues pertaining to chemical weapons stocks); by Mr. Pablo Macedo of Mexico, Co-ordinator of Cluster III (issues pertaining to non-production of chemical weapons); and by Dr. Walter Krutzsch of the German Democratic Republic, Co-ordinator of Cluster IV (issues pertaining to the organization and functions of the Consultative Committee and its organs, as well as issues pertaining to consultation, co-operation and fact-finding, including challenge inspection).

III. CONCLUSIONS AND RECOMMENDATIONS

5. The results of the work undertaken during the resumed session are reflected in the updated versions of the Appendices to CD/782, attached hereto. Appendix I to this Report reflects the present stage of negotiations on the Convention; however, the draft texts contained therein do not bind any delegations.

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

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

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

Prohibition of Chemical Weapons

The States Parties to this Convention

Each State Party to this Convention shall...  
...shall...  
...shall...

Each State Party to this Convention shall...  
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Each State Party to this Convention shall...  
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Each State Party to this Convention shall...  
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Each State Party to this Convention shall...  
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**APPENDIX I**

Each State Party to this Convention shall...  
...shall...  
...shall...

Each State Party to this Convention shall...  
...shall...  
...shall...

Each State Party to this Convention shall...  
...shall...  
...shall...

shall be as follows:

Each State Party to this Convention shall...  
...shall...  
...shall...

Preliminary structure of a Convention on chemical weapons 1/

- 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
  - XI. Economic and technological development
  - XII. Relation to other international agreements
  - XIII. Amendments
  - XIV. Duration, withdrawal
  - XV. Signature, ratification, entry into force
  - XVI. Languages
- Annexes and other documents

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1/ Discussions are still continuing on where different issues like verification measures are to be placed under this structure.

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:

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

I. GENERAL PROVISIONS ON SCOPE

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. 1/ 2/

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. 3/

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

---

1/ 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.

2/ 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".

3/ 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;

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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 Consultative Committee 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

Toxic chemicals are divided into the following categories:]

(a) "super-toxic lethal chemicals", which have a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m<sup>3</sup> (by inhalation) when measured by an agreed method 1/ set forth in ... 2/

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

[(c) "other harmful chemicals", being 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" has a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m<sup>3</sup> (by inhalation).]

---

1/ 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.

2/ Recommended procedures for toxicity determinations are attached in Appendix III.

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; 1/

4. "Precursor" means:

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

(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].

(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.] 2/

Key precursors are listed in ...

For the purpose of the relevant provisions in a Chemical Weapons Convention key precursors should be listed and subject to revisions according to [characteristics] [guidelines].

Chemicals which are not key precursors but are deemed to pose a [threat] [particular risk] with regard to a Chemical Weapons Convention should be included in a list.

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1/ 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.

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

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

[a key 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):]

5. "Chemical weapons production facility" means:

- Chemical weapons production facility means [any building or equipment designed, constructed or used [in any degree] for the production of chemical weapons] or for filling chemical weapons.
- Chemical weapons production facility means [any building or any equipment which in any degree was designed, constructed or used since 1 January 1946, for:

(a) the production for chemical weapons of any toxic chemical, except for those listed in Schedule [3], or the production for chemical weapons of any precursors;] or

(b) the filling of chemical weapons.

III. DECLARATIONS 1/

1. Each State Party shall submit to the Consultative Committee, 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 [at the time of entry into force of the Convention for it] 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 [at the time of entry into force of the Convention for it] 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 [1.1.46] 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.

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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; 2/

(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 para. 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.

2/ A question was raised as to the applicability of this subparagraph.

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 ... months 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.

---

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.

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. 2/

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, 3/ 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 [or reconstruction for peaceful purposes] 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 para. 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.

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

2/ Some delegations consider this paragraph redundant.

3/ Some delegations expressed doubts as to the applicability of this phrase.

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

(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 [dismantled and] destroyed, or [dismantled] [and reconstructed for peaceful purposes].

7. Each State Party shall submit detailed plans for [destruction] [elimination] of each facility not later than [3 months] before the [destruction] [elimination] [conversion] of the facility begins. 1/

8. Each State Party shall:

(a) [destroy] [eliminate] all chemical weapons production facilities pursuant to [the [order] [schedule] specified in] the Annex to Article V beginning not later than 12 months, and finishing not later than 10 years, after the Convention enters into force for it; 2/

(b) provide information annually regarding the implementation of its plans for the [destruction] [elimination] 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] [eliminated].

9. A chemical weapons production facility may be temporarily converted for destruction of chemical weapons. Such a converted facility must be [destroyed] [eliminated] 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 for the State Party.

10. [Each State Party shall submit all chemical weapons production facilities] [All chemical weapons production facilities 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 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.

---

1/ One delegation held the view that the detailed plans in question should be submitted by each State Party within twelve months of the entry into force of the Convention for it.

2/ Some delegations expressed the desire to see the elimination of chemical weapons production facilities at the earliest opportunity.

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

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:

(a) Toxic chemicals and their precursors considered in the Annexes to Article VI [1], [2], [3] and [4], 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 those annexes:

Annex to Article VI [1] Schedule [1]: Super-Toxic Lethal Chemicals and [especially dangerous key precursors] [key components of chemicals weapons systems].

Annex to Article VI [2] Schedule [2]: Key Precursors.

Annex to Article VI [3] Schedule [3]: Chemicals produced in large commercial quantities and which could be used for chemical weapons purposes.

Annex to Article VI [4]: Commercial production of toxic chemicals not listed in Schedules [1], [2] or [3] that might be relevant to the Convention. 3/

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1/ 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.

2/ 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.

3/ Some delegations consider that these chemicals should be dealt with in the Annex to Article VI [2] Schedule [2]. Other delegations consider that a separate Annex is required.

- (b) The schedules of chemicals contained in the annexes may be revised. Modalities for revision are contained in the Annex to Article [VI] [0.]. 1/
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 the Annex to Article VI [1], [2], [3] and [4]. 2/
4. Each State Party shall make an annual declaration regarding the relevant chemicals in accordance with the Annex to Article VI [1], [2], [3] and [4]. 2/
5. Each State Party undertakes to subject the chemicals and [facility] [facilities] under the Annex to Article VI [1] to the measures contained in that annex.
6. Each State Party undertakes to subject the chemicals and facilities under the Annex to Article VI [2] and [4] 2/ 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.
7. Each State Party undertakes to subject the chemicals and facilities under the Annex to Article VI [3] 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. 3/ 4/
9. In conducting verification activities, the (Consultative Committee) shall:
- (a) avoid undue interference in the State Party's peaceful chemical activities;
- (b) take every precaution to protect confidential information coming to its knowledge in the implementation of the Convention; 3/ and

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1/ Furthermore, work was carried out on guidelines for considering inclusion of chemicals in Schedule [1]. The result of this work is enclosed in Appendix II to serve as a basis for future work.

2/ Some delegations consider that the chemicals in the Annex to Article VI [4] should be dealt with in the Annex to Article VI [2] Schedule[2]. Other delegations consider that a separate Annex is required.

3/ It was agreed that provisions to ensure the confidentiality of the information provided should be elaborated.

4/ The inclusion of this paragraph in this article is to be considered further.

(c) require only the minimum amount of information and data necessary for the carrying out of its responsibilities under the Convention.

10. For the purpose of on-site verification, each State Party shall grant to the (Consultative Committee) access to facilities as required in the Annex to Article VI [1], [2], [3] and [4]. 1/

Each State Party undertakes to co-operate with the Consultative Committee in the exercise of all its functions and in particular to provide assistance to the Consultative Committee in carrying out its tasks and to respond to all its requests for information, data, documents, and laboratory support.

1. The [Consultative Committee] shall have representatives from all the States Parties to this Convention. Each State Party to the Convention shall have one representative in the [Consultative Committee] and shall have one representative in the [Executive Council] and one representative in the [General Conference].

2. The first session of the [Consultative Committee] shall be convened by the Secretary-General of the Convention at a date to be determined by the [Executive Council] not later than 30 days after the entry into force of the Convention.

3. The [Consultative Committee] shall meet in regular sessions which should be held annually. It shall meet in special sessions, at the request of the [Executive Council] or at the request of any State Party supported by a third of the States Parties. When necessary a special session shall be convened at short notice.

1/ This Article is at an early stage of elaboration.

17. One delegation has expressed interest in the approach being given to the concept of a Commission for the Control of Chemical Weapons, or any other similar institution for this purpose, and has proposed that the Commission should be established as an independent body with a mandate to monitor the implementation of the Convention and to report to the [Executive Council]. It was suggested that guidelines for the functioning of the Commission be elaborated.

1/ Some delegations consider that the chemicals in the Annex to Article VI [4] should be dealt with in the Annex to Article VI [2] Schedule [2]. Other delegations consider that a separate Annex is required.

VII. NATIONAL IMPLEMENTATION MEASURES

Each State Party to this Convention shall adopt any measures it considers necessary 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.

In order to implement these obligations, each State Party shall, according to its needs and specific conditions, designate or establish a national authority. 1/

Each State Party undertakes to inform the Consultative Committee concerning the national authority and other legislative and administrative measures taken to implement the Convention.

Each State Party undertakes to co-operate with the Consultative Committee in the exercise of all its functions and in particular to provide assistance to the Consultative Committee 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.

National Technical Means 2/

1/ It was suggested that guidelines for the functioning of the national authority for the implementation of the Convention be elaborated.

2/ It was suggested that no reference to National Technical Means is needed in a future Convention.

VIII. THE ORGANIZATION 1/, 2/

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. 3/
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 [Consultative Committee] [General Conference], the Executive Council and the Technical Secretariat.

B. [The Consultative Committee] [The General Conference]

(a) Composition, procedure and decision-making

1. The [Consultative Committee] [General Conference] shall be composed of all the States Parties to this Convention. Each State Party to the Convention shall have one representative in the [Consultative Committee] [General Conference], who may be accompanied by alternates and advisers.
2. The first session of the [Consultative Committee] [the General Conference] shall be convened by the Depository at (venue) not later than 30 days after the entry into force of the Convention.
3. The [Consultative Committee] [the General Conference] shall meet in regular sessions which should be held annually unless it decides otherwise. It shall meet in special sessions, as the [Consultative Committee] [General Conference] may decide, at the request of the Executive Council or at the request of any State Party supported by [8-10] 4/ [one third of] the States Parties. When necessary a special session shall be convened at short notice.

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1/ This Article is at an early stage of elaboration.

2/ 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.

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

4/ A view was expressed that a smaller number of States Parties supporting such a request could also be sufficient.

4. Sessions shall take place at the headquarters of the Organization unless the [Consultative Committee] [General Conference] decides otherwise.
5. The [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] shall constitute a quorum.
7. Each member of the [Consultative Committee] [General Conference] shall have one vote.
8. Decisions on questions of procedure, including decisions to convene special sessions of the [Consultative Committee] [General Conference], shall be taken by a simple majority of the members present and voting. Decisions on questions of substance shall be taken by a two-thirds majority of the members present and voting unless otherwise specifically provided for in the Convention. When the issue arises as to whether a question is one of substance or not, that question shall be treated as one of substance unless otherwise decided by the [Consultative Committee] [General Conference] by the majority required for decisions on questions of substance. 1/ 2/

(b) Powers and functions

1. The [Consultative Committee] [General Conference] shall be the [principal] [supreme] organ of the Organization. [It shall consider any questions or matters 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 to States Parties on any such questions or matters.]
- [2. The [Consultative Committee]-[General Conference] shall oversee the implementation of the Convention, promote and [assess] [review] compliance with it, deal with any issues in this respect raised by a State Party or brought to its attention by the Executive Council and make recommendations or take decisions as appropriate.]

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1/ It has also been proposed that decisions should be taken by consensus, except as specified elsewhere and, if a consensus were not possible, by a simple majority of the members present and voting. It has also been pointed out that there should be no differentiation between decisions on questions of procedure and those of substance.

2/ 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 [Consultative Committee] [General Conference], within the authority granted by this Article, shall make recommendations and decisions on issues raised by a State Party or brought to its attention by the Executive Council. The [Consultative Committee] [General Conference] shall also oversee the implementation of the Convention, and promote and [assess] [review] compliance with it.]

3. The [Consultative Committee] [General Conference] shall 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.

4. In addition, the powers and functions of the [Consultative Committee] [General Conference] shall be:

- (i) To consider and adopt at its regular sessions the report of the Organization, consider other reports 1/ 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 of the Technical Secretariat; 3/
- (vii) to approve the rules of procedure of the Executive Council submitted by the latter;

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1/ It has been proposed that reports should be sent to the United Nations.

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

3/ The option of candidates being proposed by the Executive Council and by States Parties for appointment should be discussed.

(viii) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention. 1/ 2/

(ix) ... 3/

5. The [Consultative Committee] [General Conference] shall, after the expiry of a period of ... years from the date of entry into force of this Convention, undertake a review of the operation of this Convention. 4/

[6. The Chairman of the [Consultative Committee] [General Conference] shall serve as Chairman of the Executive Council.]

### C. The Executive Council

#### (a) Composition, procedure and decision-making

(To be elaborated)

#### (b) Powers and functions

1. The Executive Council shall be the executive organ of the [Consultative Committee] [General Conference], 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 [Consultative Committee] [General Conference]. In so doing, it shall act in conformity with the recommendations, decisions and guidelines of the [Consultative Committee] [General Conference] and assure their continuous and proper implementation.

2. In particular, the Executive Council shall:

[(a) ensure compliance through effective implementation of the verification provisions of 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;

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1/ It has been proposed that a Scientific Advisory Council be established as a subsidiary body.

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

3/ 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.

4/ The convening of further review conferences, possibly at certain intervals of years, could also be provided for.

(d) consider any issue or matter within its competence, affecting the Convention and its implementation, [including concerns regarding compliance,] and inform, as appropriate, States Parties and the [Consultative Committee] [General Conference] of the result of its consideration;

[(e) consider and, if necessary, refer to the [Consultative Committee] [General Conference] cases of non-compliance.]

(f) consider and submit to the [Consultative Committee] [General Conference] the draft programme and budget of the Organization;

(g) consider and submit to the [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] may request;

(h) conclude agreements with States and international organizations on behalf of the Organization, subject to approval by the [Consultative Committee] [General Conference], and approve agreements relating to the implementation of verification activities, concluded by the Director of the Technical Secretariat with States Parties;

(i) (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 [Consultative Committee] [General Conference] for approval;

(iv) make arrangements for the sessions of the [Consultative Committee] [General Conference] including the preparation of a draft agenda.

3. The Executive Council may request the convening of a special session of the [Consultative Committee] [General Conference]. 1/

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1/ It has been proposed that the Executive Council should request the convening of a special session of the [Consultative Committee] [General Conference] whenever obligations set forth in Article I of the Convention are violated.

D. Technical Secretariat <sup>1/</sup>

1. A Technical Secretariat shall be established to assist the Consultative Committee and the Executive Council in the performance of their functions, including technical assistance to States Parties. The International Inspectorate shall be part of the Technical Secretariat and carry out activities relating to the execution of international verification measures provided for in this Convention. Guidelines on the International Inspectorate are specified in ... <sup>2/</sup>
2. The Technical Secretariat shall comprise a Director, who shall be its head, and inspectors and such scientific, technical and other personnel as may be required.
3. The Director of the Technical Secretariat shall be appointed for ... years by the Consultative Committee [upon the recommendation of the Executive Council] and shall be responsible to the Consultative Committee 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 service 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.
4. In the performance of their duties, the Director of the Technical Secretariat, the inspectors and the other members of the staff shall not seek or receive instructions from any Government or from any other source external to the International Authority. They shall refrain from any action which might reflect on their position as international officials responsible only to the Consultative Committee.
5. Each State Party shall undertake to respect the exclusively international character of the responsibilities of the Director of the Technical Secretariat, the inspectors and the other members of the staff and not to seek to influence them in the discharge of their responsibilities.

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<sup>1/</sup> One delegation noted that the positions, composition and functions of the Technical Secretariat will need further discussion and elaboration.

<sup>2/</sup> Because of considerations under way in some capitals, the question of how to approach these guidelines will be decided later. For the convenience of delegations Attachment (A) of the Report of the Co-ordinator for Cluster IV (CD/CW/WP.175) is included as Addendum 1 to this Appendix.

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

1. States Parties shall consult and co-operate, directly among themselves, or through the Consultative Committee 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, whilst [taking every precaution in] protecting commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Convention.
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.

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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 accordance with provisions in Article ... 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 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 Consultative Committee in accordance with Article ... In such a special session, the Consultative Committee shall consider the matter and may recommend any measure it deems appropriate to cope with the situation.]

Procedure for requesting a fact-finding mission

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

1/ Consultations on this issue were carried out by the Chairman of the Ad Hoc Committee. The state of affairs, as seen by the Chairman is presented in Appendix II with the aim of facilitating further consideration of the issue.

X. ASSISTANCE 1/

XI. ECONOMIC AND TECHNOLOGICAL DEVELOPMENT 2/

XII. RELATION TO OTHER INTERNATIONAL AGREEMENTS 3/

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

XIV. DURATION, WITHDRAWAL 3/

...

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, RATIFICATION, ENTRY INTO FORCE

XVI. LANGUAGES

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1/ During the resumed-session work under this Article was initiated. In the course of the deliberations a number of questions were identified which indicate possible approaches to the issues involved but which warrant further consideration by delegations. With the aim of facilitating further work, the questions raised are summarized in a discussion paper by the Chairman, enclosed in Appendix II.

2/ In order to initiate discussion on the issues involved the Chairman presented a discussion paper with points for consideration. The views expressed by delegations indicated different approaches to the issues involved and no conclusions were reached. Further work is needed and the discussion points are presented by the Chairman in Appendix II with the sole aim of facilitating further preparatory work by delegations.

3/ Some delegations consider that the texts contained above require further consideration.

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 .....



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 2/ 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 to Article VI. 3/

(b) For a chemical not listed in the Schedules in the Annex to Article VI, 3/ 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.

---

1/ One delegation reserved its position on this question.

2/ At a later stage, when agreement has been reached concerning an Order of Destruction the possibility of grouping the declared weapons according to such an Order could be discussed.

3/ A view was expressed that in the context of Article IV, consideration should be given to the development of schedules applicable to chemical weapons declared under the Article.

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

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

- type
- size or calibre
- number of items
- weight of chemical fill per item 1/
- purity of chemical fill 2/

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

(h) For each intended chemical fill, unfilled munitions and/or sub-munitions and/or devices and/or equipment, defined as chemical weapons. 3/ 4/ For each type the information shall include:

- the number of items
- the fill volume per item 5/
- alternative chemical fill(s), if known.

---

1/ The question of precisely how to determine this weight remain to be resolved.

2/ Four different approaches have been taken by delegations:  
(1) initial purity; (2) purity of the compound as stored, with an approximation of some 10 per cent; (3) that declaration of purity was not necessary; (4) that purity is necessary where equivalence has to be calculated.

3/ At a later stage, when agreement has been reached concerning an Order of Destruction, the possibility of grouping the declared weapons according to such an Order could be discussed.

4/ Some delegations do not consider the inclusion of this under 3(1) appropriate and prefer to include it under 3(2).

5/ Some delegations did not consider this information necessary.

(2) Unfilled munitions and/or sub-munitions and/or devices and/or equipment, defined as chemical weapons. 1/ 2/ For each type the information shall include:

(a) the number of items

(b) the fill volume per item 3/

(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). (Example: single purpose rocket launchers).

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

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 per chemical 5/ and per year]. This declaration shall be made according to the inventory format in paragraph 3 above. This declaration shall also reflect the supplier and recipient countries, timing and current location, if known, of the transferred items.

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1/ At a later stage, when agreement has been reached concerning an Order of Destruction, the possibility of grouping the declared weapons according to such an Order could be discussed.

2/ Some delegations do not consider this as a separate declaration but prefer to include this under 3(1).

3/ Some delegations did not consider this information necessary.

4/ Different views exist concerning if, or to what extent, such chemicals should be declared. Furthermore, it appears that this question will have to be decided in the light of the final definition of chemical weapons.

5/ Nominal chemical fill weight for unfilled munitions.

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 International Authority 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 International Authority 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.

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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 .. months after entry into force of the convention, States Parties shall conclude with the International Authority 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 International Authority. 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 International Authority 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.

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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 International Authority 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 International Authority 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 jeopardise 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 International Verification Headquarters 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 International Verification Headquarters. 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 International Authority would immediately ascertain the actual situation, including through immediate on-site inspection or visit of the storage facility if necessary. The International Authority 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 International Authority 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 International Authority 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 International Authority 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 International Authority shall certify the declaration of the National Authority to that effect. After this certification, the International Authority 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 International Authority [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 International Authority 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 International Authority 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 International Authority, in accordance with agreed procedures;
- afford the opportunity to the Host State Party to be present when samples are analysed;
- ensure, in accordance with procedures (to be developed), that samples transported, stored and processed are not tampered with;
- communicate freely with the International Authority.

(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;

- 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 International Authority.

(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 International Authority immediately.

(f) After each inspection or visit to the storage facility, International Inspectors shall submit a report with their findings to the International Authority which will transmit a copy of this report to the State Party having received the inspection or visit. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

### 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.

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1/ The further development of this entire section has been subject to consultations by the Chairman of the Ad Hoc Committee, the result of which is enclosed in Appendix II. The Co-ordinator on Cluster I also held some consultations on this question.

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/
- V. INTERNATIONAL VERIFICATION OF THE DESTRUCTION OF CHEMICAL WEAPONS 5/

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;

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/ This section is at a very early stage of elaboration. Further work is needed on it.

- (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 1/ 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 Consultative Committee.

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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.

(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 International Authority 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 (...) 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 (to be elaborated further); 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 International Authority;
- if necessary, (to be discussed) transfer samples for analysis off-site at a laboratory designated by the International Authority, in accordance with agreed procedures;
- ensure, in accordance with procedures (to be developed), 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 International Authority.

(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 International Authority which will transmit a copy of this report to the State Party having received the inspection. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

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 1/ of paragraph 5 of section II of the

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1/ To be specified later.

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 [existing] 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

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.
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 [existing] 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
- 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];
    - (b) the identity of the equipment;
    - (c) date of transfer;
    - (d) whether the chemical weapons production equipment [and documentation] were eliminated;
    - (e) current disposition, if known.

F. Declarations of measures to ensure closure of:

1. Facilities under the jurisdiction or control of the State Party (data on national measures and the time-frames).
2. Facilities on the State Party's territory under the control of others (to be developed).

G. Annual Reports

H. Final Certification of Elimination

II. PRINCIPLES AND METHODS OF ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

A. General

Each State Party shall decide on methods to be applied for the elimination of its chemical weapons production facilities, according to the principles laid down in this Annex. The process of elimination might be carried out through destruction, 1/ dismantling, 2/ [or conversion 3/].

- responsibility for carrying out measures when more than one State is involved (to be discussed).

B. Closure and methods for closing the facility (to be elaborated)

C. Activities related to elimination

1. Facilities producing Schedule [I] chemicals.

1/ One delegation suggests the following formulation: "Destruction means disassembling of technological equipment, its removal from buildings and constructions where it had been installed with its further irreversible transformation into articles unsuitable for the purposes of production of chemical weapons."

2/ One delegation suggests the following formulation: "Dismantling means disassembling of technological equipment, its removal from buildings and constructions where it had been installed with its further use for permitted purposes."

3/ One delegation suggests the following formulation: "Conversion of facilities means use of facilities after their reconstruction for permitted purposes not connected with chemical weapons."

2. Facilities producing other categories of chemicals.

3. Filling facilities.

D. Activities related to temporary conversion to destruction facility

E. Activities related to former chemical weapons production facilities

III. ORDER OF ELIMINATION (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 elimination.

2. In addition, the following information should be supplied for each facility:

[(a) In relation to dismantling:]

[(b) In relation to conversion for peaceful purposes:

(i) description of the facility after conversion

(ii) designation of the facility after conversion and names of products to be manufactured.]

3. 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 elimination of special equipment;

(v) time-frame for elimination of the converted facility after it has been utilized to destroy chemical weapons;

(vi) method of elimination of the converted facility.

4. In relation to former chemical weapons production facilities (to be elaborated).

B. Detailed plans

1. The detailed plans for elimination of each facility should contain:
  - (a) detailed time schedule of elimination process;
  - (b) layout of the facility;
  - (c) process flow diagram;
  - (d) detailed inventory of equipment, buildings and other items to be eliminated;
  - (e) measures to be applied to each item on the inventory;
  - (f) proposed measures for verification;
  - (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 addition, the following information should be included:

[(a) In relation to dismantling:]

[(b) In relation to conversion for peaceful purposes:

(i) projected use of the facility after conversion and products to be manufactured;

(ii) layout of the facility after conversion;

(iii) process flow diagram of the facility after conversion];

3. 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 IV.B.1(c).

4. In relation to elimination 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.

5. In relation to former chemical weapons production facilities (to be elaborated).

V. INTERNATIONAL VERIFICATION OF DECLARATIONS OF CHEMICAL WEAPONS PRODUCTION FACILITIES AND THEIR CLOSURE, INTERNATIONAL SYSTEMATIC MONITORING, INTERNATIONAL SYSTEMATIC VERIFICATION OF ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES 1/

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.

(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.

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1/ 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 elimination.

2. Agreements on subsidiary arrangements 1/

(a) Within [6] months after entry into force of the Convention, States Parties shall conclude with the International Authority 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 International Authority, 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 International Authority at all such facilities within the agreed time frames after the Convention enters into force. 2/

3. Measures for closure of chemical weapons production facilities

(a) The purpose of the closure of a chemical weapons production facility is to render it inoperable as such.

(b) 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;
- 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 chemicals weapons production facility except those required for agreed activities.

(c) While the chemical weapons production facility remains closed, the State Party may continue safety activities at the facility.

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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 activities and items in these measures will need further elaboration.

4. 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.

5. 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 eliminated. 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 International Authority 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 International Authority 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 International Verification Headquarters 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 International Verification Headquarters. 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 International Authority would immediately ascertain the actual situation, including through immediate on-site inspection or visit of the production facility if necessary. The International Authority 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 International Authority 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 International Authority 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 International Authority in such a way as to preclude the prediction of precisely when the facility is to be inspected.

6. International verification of elimination of chemical weapons production facilities

(a) The purpose of international verification of elimination of chemical weapons production facilities will be to confirm that the facility is eliminated as such in accordance with the obligations under the Convention and that each item on the declared inventory is eliminated in accordance with the agreed detailed plan for elimination.

(b) [3-6] months before elimination of a chemical weapons production facility, a State Party shall provide to the Technical Secretariat the detailed plans for elimination to include proposed measures for verification of elimination 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 eliminated;
- 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 elimination 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 elimination 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) The agreed combined plans for elimination and verification, with an appropriate recommendation by the Technical Secretariat, will be forwarded to the members of the Executive Council for review. These plans should allow a State Party to destroy any item agreed to be diverted. The members of the Executive Council shall review the plans with a view to approving them,

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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.

consistent with verification objectives. This review is designed to determine that the planned disposition of each item is consistent with the obligations under the Convention and the objective of eliminating the facility. It should also confirm that verification schemes for elimination are consistent with verification objectives, and are efficient and workable. This review should be completed [60] days before the planned initiation of elimination.

(e) Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the combined plan for elimination 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 Consultative Committee. The resolution of any differences over methods of elimination should not delay the execution of other parts of the elimination plan that are acceptable.

(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 elimination will proceed by the continuous on-site monitoring and presence of inspectors.

(h) Elimination and verification should proceed according to the agreed plan. The verification should not unduly interfere with the elimination process.

(i) If required verification or elimination actions are not taken as planned, all States Parties should be so informed. (Procedures to be developed.)

(j) For those items to be eliminated through destruction, verification of elimination should be conducted through the presence on-site of Inspectors to witness the destruction. 1/

(k) For those items that may be diverted for permitted purposes. 2/

(l) When all items on the declared inventory have been eliminated, the International Authority shall certify, in writing, the declaration of the State Party to that effect. After this certification, the International Authority 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.

(m) After this certification, the State Party will make the declaration that the facility has been eliminated.

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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.

7. International verification of temporary conversion of a chemical weapons production facility into a chemical weapons destruction facility

(to be elaborated)

8. Inspections and visits

(a) The International Authority 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 International Authority 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.

(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 International Authority.

(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 International Authority.

(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 International Authority immediately.

(f) After each inspection or visit to the chemical weapons production facility, International Inspectors shall submit a report with their findings to the International Authority which will transmit a copy of this report to the State Party having received the inspection or visit. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

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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 TO ARTICLE VI [O.]

MODALITIES FOR REVISION OF LISTS

1. The revisions envisaged would consist of additions to, deletions from, or shifts between the lists.
2. A revision could be proposed by a State Party. [If the Technical Secretariat has information which in its opinion may require a revision of the lists of chemicals, it should provide that information to the [Executive Council] which should communicate it to all States Parties.] A State Party may request the assistance of the Technical Secretariat in the substantiation of its proposal.
3. A proposal for revision should be submitted to [the International Authority] [the Executive Council] [the Depositary of the Convention].
4. [The International Authority] [The Executive Council] [The Depositary of the Convention], upon receipt of a proposal for revision, will be responsible for informing States Parties about it.
5. The proponent should substantiate its proposal with the necessary information. Any State Party and, as requested, the Technical Secretariat, could also provide relevant information for the evaluation of the proposal.
6. Technical evaluations of a proposal may be made by the International Authority, [the Executive Council], any State Party [and the Technical Secretariat].
7. The decision on a proposal should be taken by the International Authority [the Consultative Committee] by [a majority vote] [consensus] [tacit approval of all States Parties 60 days after they have been informed of the proposal by the International Authority. If there is no tacit approval, the matter should be reviewed by the [Consultative Committee] at its next meeting.] [If urgent consideration is requested by five or more Parties, a special meeting of the Consultative Committee should be promptly convened.]
8. The revision procedure should be concluded within [60 days] after the receipt of the proposal. Once a decision is taken, it should enter into force after a period of [30 days].
9. The Technical Secretariat should provide assistance to any State Party, when requested, in evaluating an unlisted chemical. This assistance should be confidential [unless it is established in the evaluation that the chemical has chemical weapon properties].

ANNEX TO ARTICLE VI [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 or protective purposes, 1/ and
  - (ii) the types and quantities of chemicals are strictly limited to those which can be justified for research, medical or protective purpose, and
  - (iii) the aggregate amount of such chemicals at any given time for [permitted] [protective] purposes is equal to or less than one metric tonne, and
  - (iv) the aggregate amount for [permitted] [protective] 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 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 Consultative Committee.
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.

---

1/ A view was expressed that for consistency in this Annex, "permitted purposes" should be used instead of "research, medical or protective purposes". The view was also expressed that use of the term "permitted" would broaden considerably the sphere of use of super-toxic lethal chemicals which could be used as chemical weapons and that this was very undesirable.

## SINGLE SMALL-SCALE PRODUCTION FACILITY

Each State Party which produces chemicals in Schedule [1] for [permitted] [protective] purposes shall carry out the production at a single small-scale facility, the capacity of which shall not exceed [one] metric tonne per year, as measured by the method established in [ ]. 1/

### I. Declarations

#### A. Initial declarations

Each State Party which plans to operate such a facility shall provide the Consultative Committee 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.

#### B. Advance notifications

Each State Party shall give advance notification to the [international authority] 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] or [3] used for production of chemicals in Schedule [1];
- (iv) the quantity consumed at the facility and the purpose(s) of the consumption;

---

1/ The view was expressed that the single small-scale production facility should be State-owned.

(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 production 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 capacity will not permit the production, on an

annual basis, of quantities [significantly] above one metric tonne, 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 possessing or planning to possess a facility shall execute an agreement, based on a model agreement, with the [international authority] before the facility begins operation or is used, covering detailed inspection procedures for the facility. Each agreement shall include: (to be developed) 1/

#### OTHER FACILITIES

[Facilities which synthesize, acquire or use chemicals in Schedule [1] for research or medical purposes shall be approved by the State Party. Synthesis at each such facility for research and medical purposes shall be limited per annum to a total maximum of [..]g and to [..]g of any one chemical on the Schedule.]

[Facilities which acquire or use chemicals in Schedule [1] for permitted purposes shall be approved by the State Party. Each transfer from the single small-scale production facility to such facilities shall be notified to the Consultative Committee by inclusion in the annual data reporting, with an indication of the chemical or chemicals involved, the amount transferred and the purpose of the transfer.]

#### I. Declarations

##### A. Initial declarations

The location of the facilities approved by the State Party shall be provided to the Consultative Committee.

##### B. Advance notifications

##### C. Annual declarations

#### II. Verification

Facilities shall be monitored through annual data reporting to the Consultative Committee. The following information shall be included: (to be developed)

---

1/ The view was expressed that pending conclusion of the agreement between a State Party and the [International Authority] there would be a need for provisional inspection procedures to be formulated.

ANNEX TO ARTICLE VI [1]  
SCHEDULE [1]

PROVISIONAL LIST 1/

1. O-Alkyl alkylphosphonofluoridates  
e.g. Sarin: O-isopropyl methylphosphonofluoridate (107-44-8)  
Soman: O-pinacolyl methylphosphonofluoridate (96-64-0)
2. O-Alkyl N,N-dialkylphosphoramidocyanidates  
e.g. Tabun: O-ethyl N,N-dimethylphosphoramidocyanidate (77-81-6)
3. O-Alkyl S-2-dialkylaminoethylalkylphosphonothiolates  
e.g. VX: O-ethyl S-2-diisopropylaminoethylmethylphosphonothiolate (50782-69-9)
4. Sulphur mustards:  
e.g. Mustard gas (H): bis(2-chloroethyl)sulphide (505-60-2)  
Sesquimustard (Q): 1,2-bis(2-chloroethylthio)ethane (3563-36-8)  
O-Mustard (T): bis(2-chloroethylthioethyl)ether (63918-89-8)
5. Lewisites  
Lewisite 1: 2-chlorovinylchloroarsine (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) (6581-06-2)
8. Alkylphosphonyldifluorides  
e.g. DF (576-99-3)
9. Ethyl O-2-diisopropylaminoethyl alkylphosphonites  
e.g. QL (57856-11-8)

---

1/ Some of the chemicals on the Schedules exist in more than one stereoisomeric form. It is proposed that, where assigned, the Chemical Abstracts Service Registry Numbers be stated for each of them.

To be discussed further

1. Saxitoxin
2. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol)
3. CS
4. C1
5. Chloro Soman and Chloro Sarin
6. Sulphur Mustards: to include compounds listed below.

2-chloroethylchloromethylsulphide

bis(2-chloroethyl)sulphone

bis(2-chloroethylthio)methane

1,3-bis(2-chloroethylthio)-n-propane

1,4-bis(2-chloroethylthio)-n-butane

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ANNEX TO ARTICLE VI [2]

KEY PRECURSOR CHEMICALS

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 per annum of the chemicals listed in Schedule [2]:

Key Precursor 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. 1/
- (iii) The purpose(s) for which the key precursor 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)
  - (c) export of a key precursor (specify which country)
  - (d) other.

---

1/ Whether the total amount is to be expressed as an exact figure or within a range is to be discussed.

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 key precursor 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 key precursor chemicals:
  - (a) production
  - (b) processing with conversion into another chemical
  - (c) processing without chemical conversion
  - (d) other - specify.
- (viii) Whether at any time during the previous calendar year declared key precursors were stored on-site in quantities greater than [ ] [tonnes].

---

1/ One delegation suggested that, in the case of a multi-purpose facility currently producing key precursor 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.

Advance notifications

3. (a) Each State Party shall annually notify the (international authority) 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 (international authority) 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.

Obligation and Frequency

5. (i) Each facility notified to the [international authority] under this Annex shall be subject to systematic international on-site verification on a routine basis.

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].

- (ii) The number, intensity, duration, timing and mode of inspections and monitoring with on-site instruments 1/ 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. 2/ The guidelines to be used shall include: (to be developed). 3/ 4/

#### Selection

6. The particular facility to be inspected shall be chosen by the [international authority] 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 [international authority] 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 considered that further discussion was required on monitoring with on-site instruments.

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 "military significant quantities" of the relevant chemical(s).

4/ There was general agreement that the guidelines should stipulate the main elements relevant to the basic features of the facility. A view was expressed that one of the guidelines might provide that inspections will usually be carried out at a time when the facility inspected is operating in the normal way. The view was also expressed that this approach would be inconsistent with the language of paragraph 6.

### Initial Visit

9. Each facility notified to the [international authority] 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 [international authority], 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 International Authority. 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 International Authority at all facilities within the agreed time frames after the convention enters into force. 2/

### Monitoring with on-site instruments: 3/

#### Verification Inspections

13. The areas of a facility to be inspected under subsidiary arrangements may, inter alia, include: 4/

---

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/ It was agreed that provisions on monitoring with on-site instruments should be elaborated taking into account the relevant parts of the Annexes to Articles IV and V.

4/ 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].

- (i) areas where feed chemicals (reactants) are delivered and/or stored;
- (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 International Authority 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 International Authority 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 International Authority, in accordance with agreed procedures; 1/
- afford the opportunity to the Host State Party to be present when samples are analysed; 1/
- ensure, in accordance with procedures (to be developed), that samples transported, stored and processed are not tampered with; 1/
- communicate freely with the International Authority.

(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 International Authority.

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 International Authority which will transmit a copy of this report to the State Party having received the inspection or visit. Information received during the inspection shall be treated as confidential (procedures to be developed).

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 International Authority immediately.

---

1/ The view was expressed that all questions related to analysis off-site required further discussion.

ANNEX TO ARTICLE VI [2]  
SCHEDULE [2]

PROVISIONAL LIST

1. Chemicals containing one P-methyl, P-ethyl, or P-propyl (normal or iso. bond).
2. N,N-Dialkylphosphoramidic dihalides.
3. Dialkyl-N,N-dialkylphosphoramidates.
4. Arsenic trichloride. (7784-34-1)
5. 2,2-Diphenyl-2-hydroxyacetic acid. (76-93-7)
6. Quinuclidin-3-ol (1619-34-7)
7. N,N-Diisopropylaminoethyl-2-chloride. (96-79-7)
8. N,N-Diisopropylaminoethan-2-ol. (96-80-0)
9. N,N-Diisopropylaminoethane-2-thiol. (5842-07-9)

---

TO BE DISCUSSED FURTHER

(1) The following compounds:

- Bis(2-hydroxyethyl)sulphide (thiodiglycol)  
3,3-Dimethylbutan-2-ol (pinacolyl alcohol)

(2) Expanded groups for compounds 5, 6, 7, 8 and 9, as follows:

- (No. 5): 2-phenyl-2-(phenyl, cyclohexyl, cyclopentyl or cyclobutyl)-2-hydroxyacetic acids and their methyl, ethyl, n-propyl and iso-propyl esters.
- (No. 6): 3- or 4-hydroxypiperidine and their [derivatives] and [analogs].
- (Nos. 7,8,9): N,N-Disubstituted aminoethyl-2-halides  
N,N-Disubstituted aminoethan-2-ols  
N,N-Disubstituted aminoethane-2-thiols

ANNEX TO ARTICLE VI [3]

Chemicals which are produced in large commercial quantities and which could be used for chemical weapons purposes

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.
- (iii) The final product or end use of the chemical in accordance with the following categories (to be developed),
- (iv) for each facility which produces, processes, consumes or transfers one of the chemicals listed in Schedule [3] (on an industrial scale - to be defined). 1/
  - (a) The name of the facility and of the owner, company, or enterprise operating the facility.
  - (b) The location of the facility.
  - (c) The capacity (to be defined) 2/ of the facility.
  - (d) The approximate amount of production and consumption of the chemical in the previous year (ranges to be specified).

---

1/ 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. Coms (Netherlands).

2/ 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. A State Party shall notify the (International Authority) 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 [International Authority] and the monitoring of that data by the [International Authority]. 1/

---

1/ 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.

ANNEX TO ARTICLE VI [3]  
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<br>Phosphorus [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) |

ANNEX TO ARTICLE VI [4] 1/

Commercial production of toxic chemicals, not listed in Schedules [1], [2] or [3] that might be relevant to the Convention

DECLARATIONS

1. The Initial and Annual Declarations to be provided to the [international authority] by a State Party under Article VI shall

for each facility which produces or processes [more than [10 kg] [100 kg] [1,000 kg] 2/ per annum 3/ of] any chemical 4/ 5/ with an LD<sub>50</sub> equal to or less than 0.5 mg per kg bodyweight 6/ or an LC<sub>t50</sub> equal to or less than 2,000 mg-min/m<sup>3</sup> and has a production capacity 7/ for any such chemical exceeding 1,000 kg 2/ 8/ per annum 9/,

include the following information:

---

1/ Some delegations consider that the chemicals in this Annex should be dealt with in the Annex to Article VI [2] Schedule [2]. Other delegations consider that a separate Annex is required.

2/ Some delegations felt that the thresholds for production and production capacity should correspond to militarily significant quantities.

3/ The question of production or processing not occurring annually requires further discussion.

4/ Some delegations expressed the view that additional criteria of suitability for chemical weapons purposes should be added.

5/ Some delegations expressed the view that whether or not a list of these chemicals would be needed, should be discussed.

6/ It is understood that further discussion is needed with regard to chemicals with a somewhat lower toxicity. In this context various ideas were put forward, i.a.:

- that chemicals falling within a deviation-range of 10-20 per cent could be considered;
- that chemicals with an LD<sub>50</sub> close to 0.5 mg/kg bodyweight could be included as exceptions;
- that the modalities for revisions of lists could be made use of to take care of possible concerns in this regard.

7/ How to define production capacity remains to be agreed upon. In this context reference was made to the proposal contained in CD/CW/WP.171.

8/ It is understood that the quantitative value of the threshold for production capacity remains to be discussed.

9/ One delegation expressed the view that the question of production capacities should be considered in accordance with the relevant provisions in the Annex to Article VI, Schedules [2] and [3] (cf. CD/CW/WP.167 pp. 62, 68).

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) For each chemical the total amount produced and/or processed [ , imported and exported, with an indication of the countries involved,] in the previous calendar year; 1/ 2/
- (iii) The purpose(s) for which the chemical(s) are produced or processed:
  - (a) conversion on-site (specify product type);
  - (b) sale or transfer to other domestic industry (specify final product type or end use);
  - (c) export (specify which country);
  - (d) other.

Facility

- (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 declared chemical(s) or is multipurpose;
- (iv) The production capacity of the facility for the declared chemical(s); 3/
- (v) Which of the following activities are performed with regard to the declared chemical(s) and for which purpose(s):
  - (a) production;
  - (b) processing with conversion into another chemical;
  - (c) processing without chemical conversion (e.g. purification);
  - (d) other - specify.

1/ Whether the total amount is to be expressed as an exact figure or within a range is to be discussed.

2/ One delegation expressed the view that aggregate national data on the production of any such chemical should also be provided.

3/ How to define production capacity remains to be agreed upon.

(vi) Whether declared chemicals are stored on-site in quantities greater than [ ]. 1/

2. A State Party shall notify the [international authority] of the name and location of any facility which intends, in the year following submission of the Annual Declaration, to produce or process

[more than [10 kg] [100 kg] [1,000 kg] 2/ per annum of] any chemical 3/ 4/ with an LD<sub>50</sub> equal to or less than 0.5 mg per kg bodyweight 5/ or an LC<sub>t50</sub> equal to or less than 2,000 mg-min/m<sup>3</sup> and which has or intends to acquire a production capacity 6/ for any such chemical exceeding 1,000 kg 2/ 7/ per annum. 8/ 9/

---

1/ The question of a threshold required further consideration.

2/ Some delegations felt that the thresholds for production and production capacity should correspond to militarily significant quantities.

3/ Some delegations expressed the view that additional criteria of suitability for chemical weapons purposes should be added.

4/ Some delegations expressed the view that whether or not a list of these chemicals would be needed, should be discussed.

5/ It is understood that further discussion is needed with regard to chemicals with a somewhat lower toxicity in the light of what might be agreed as regards footnote 6/ to paragraph 1.

6/ How to define production capacity remains to be agreed upon. In this context reference was made to the proposal contained in CD/CW/WP.171.

7/ It is understood that the quantitative value of the threshold for production capacity remains to be discussed.

8/ One delegation expressed the view that the question of production capacities should be considered in accordance with the relevant provisions in the Annex to Article VI, Schedules [2] and [3] (cf. CD/CW/WP.167 pp. 62, 68).

9/ It was pointed out that production plans might be changed at short notice and that the Convention therefore should provide for declarations of such revisions of production plans.

VERIFICATION 1/

Aim

3. 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];
- (ii) the quantities of declared chemicals produced or processed are consistent with needs for purposes not prohibited by the Chemical Weapons Convention;
- (iii) the declared chemicals are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

Obligation and Frequency

- 4. (i) Each facility notified to the [international authority] under this Annex shall be subject to systematic international on-site inspection on a routine basis if the production of any declared chemical exceeds ... per annum and the production capacity for any of the declared chemical(s) exceeds ... per annum.
- (ii) 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 chemical, the characteristics of the facility and the nature of the activities carried out there. (Guidelines to be used as well as a system for "weighting" need to be developed. In this context, threshold(s) might need to be established). 2/

Selection

5. The particular facility to be inspected shall be chosen by the [international authority] in such a way to preclude the prediction of precisely when the facility is to be inspected.

Notification

6. A State Party shall be notified by the [international authority] of the decision to inspect a facility referred to in paragraph [4] [48] [12] hours prior to the arrival of the inspection team.

---

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/ Some delegations expressed the view that possible criteria of "suitability for chemical weapons purposes" might be considered in this context rather than in the context of declarations.

### Host State Party

7. 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.

### Initial Visit

8. Each facility notified to the [international authority] under this Annex shall be liable to receive an initial visit from international inspectors, promptly after the State becomes a party to the Convention. 1/

9. 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

10. Each State Party shall execute an agreement, based on a model agreement, with the international authority, within ... 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.

11. The detailed subsidiary arrangements shall include, inter alia, the size of the team required for the inspection; the duration of the inspection; the relevant parts of the site to be inspected; and the need for permanent on-site instrumentation.

### Verification Inspections

12. The areas of a facility to be inspected under subsidiary arrangements may, inter alia, include:

- (i) areas where feed chemicals (reactants) are delivered and/or stored;
- (ii) areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessel;

---

1/ One delegation pointed out that new facilities would have to be notified to the [international authority] at a later stage.

- (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.

13. The inspectors have the right at any stage during the inspection to obtain samples from any of the areas inspected. They also have the right to request that appropriate analyses be performed in their presence, either in-house or in a mobile field laboratory, or if necessary to have samples analysed at a laboratory designated by the [international authority]. They may request clarification of any ambiguities arising from the inspection.

14. 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

15. The inspectors shall submit a report to the [international authority] on the activities conducted by them and on their findings. 1/

16. In the event that any ambiguities arise which cannot be resolved in the course of the inspection, the inspectors may in their report recommend appropriate steps for clarification.

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1/ It was suggested that the report of the inspectors should be made available to the State Party subject to the inspection.

OTHER DOCUMENT(S)

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 meeting of the Consultative Committee, the Depository 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 Commission shall consist of the representatives designated by the States which have signed the Convention.
3. The Commission shall be convened at [...] and remain in existence until the Convention comes into force and thereafter until the Consultative Committee 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 Commission shall be made by [consensus] [a two-thirds majority].
6. The Commission shall
  - (a) elect its own officers, adopt its own rules of procedures, meet as often as necessary and establish such committees as it deems useful;
  - (b) appoint an executive secretary and establish a provisional technical secretariat with units in charge of preparatory work concerning the main activities to be carried out by the Technical Secretariat created under the Convention: declarations and data; inspectorate; evaluation of accounts and reports; agreements and negotiations; personnel, qualifications and training; development of procedures and instruments; technical support; finance and administration;
  - (c) make arrangements for the first session of the Consultative Committee, including the preparation of an agenda and draft rules of procedure;

---

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.

(d) make studies, reports and recommendations for the first session of the Consultative Committee and the first meeting of the Executive Council on subjects requiring immediate attention after the entry into force of the Convention, including the programme of work and the budget for the first year of activities of the Consultative Committee, the location of the permanent offices of the International Authority, technical problems relevant to activities connected with the implementation of the Convention, establishment of the Technical Secretariat and of its staff and financial regulations.

7. The Commission shall report on its activities to the first meeting of the Consultative Committee.

ADDENDUM TO APPENDIX I

GUIDELINES ON THE INTERNATIONAL INSPECTORATE 1/

Attachment (A) to CD/CW/WP.175 - Cluster IV

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;

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1/ These guidelines relate to the activities international inspectors carry out in connection with routine verification in States Parties.

(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. Inspectors shall only request the information and data which are necessary to fulfil their mandate. States Parties shall furnish such information. Inspectors 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. They shall abide by relevant regulations established within the Technical Secretariat for the protection of confidential information. They shall remain bound by these relevant regulations after they have left their functions as international inspectors.

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. 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.

6. 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 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.

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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## PRINCIPLES AND ORDER OF DESTRUCTION OF CHEMICAL WEAPONS

During the resumed session the Chairman of the Ad Hoc Committee conducted consultations on the Principles and Order of Destruction of Chemical Weapons. As a starting point was taken Annex IV, Section III, of the rolling text (CD/782). During the consultations the following elements and ideas emerged, which, in the view of the Chairman, could constitute building blocks in the further search for solutions to the problems involved.

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.
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. 1/
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.

(Discussions have taken place along the lines of the following three categories:

Category 1: Chemical weapons on the basis of Schedule [1] chemicals;

Category 2: Chemicals 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. For each category a comparison factor shall be established.
  - The comparison factor for categories containing chemicals shall be agent tons, i.e. the aggregate weight of the chemicals within each such category.
  - The comparison factor(s) for unfilled munitions and devices shall be expressed in fill volume ( $m^3$ ) and for equipment in number of items.

---

1/ Possible additional provisions applicable to States possessing chemical weapons but which ratify the Convention at a later stage would need to be discussed.

6. 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 [equal] [undiminished] security. (The level of such stockpiles shall be agreed upon.)

7. Each State Party possessing chemical weapons

- shall start the destruction of Category 1 chemical weapons not later than one year, and shall complete it not later than 10 years after the entry into force of the Convention,
- shall start the destruction of Category 2 chemical weapons not later than one year, and shall complete it not later than five years after the entry into force of the Convention,
- shall start the destruction of Category 3 chemical weapons not later than one year, and shall complete it not later than ... years after the entry into force of the Convention.

8. 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.

Table

| <u>Year</u> | <u>Category 1</u> | <u>Category 2</u> | <u>Category 3</u> |
|-------------|-------------------|-------------------|-------------------|
| 2           |                   |                   |                   |
| 3           |                   |                   |                   |
| 4           |                   |                   |                   |
| 5           |                   |                   |                   |
| 6           |                   | (to be developed) |                   |
| 7           |                   |                   |                   |
| 8           |                   |                   |                   |
| 9           |                   |                   |                   |
| 10          |                   |                   |                   |

9. 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 provisions in Section V of the Annex to Article IV as regards the plans for elimination of chemical weapons.

10. A State Party is not precluded from destroying its stocks at a faster pace.

11. Each State Party shall report annually on the implementation of the destruction in each annual period.

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 have 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/ The basis and modalities for the application and revision of the guidelines are to be developed.

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.

(c) Production capacity...  
 (d) Capability and convertibility for initiating production of highly...  
 (e) Volume produced, processed, stored, transported, imported, exported...  
 (f) Processing without chemical conversion...  
 (g) Processing with chemical conversion...  
 (h) Production e.g. continuous, batch, types of equipment...  
 (i) Other factors...  
 (j) Remote monitoring...  
 (k) Interaction monitoring...  
 The order in which these factors are listed does not indicate any...

POSSIBLE FACTORS IDENTIFIED TO DETERMINE THE NUMBER, INTENSITY,  
DURATION, TIMING AND MODE OF INSPECTIONS OF FACILITIES HANDLING  
SCHEDULE [2] CHEMICALS 1/

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) Capanility 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 order in which these factors are listed does not indicate any priority.

REPORT ON HOW TO DEFINE "PRODUCTION CAPACITY"

Report to the Co-ordinator of Cluster III from Dr. Santesson (Sweden)  
on the subject of consultations with technical experts on the question  
of how to define "production capacity"

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 summarizes the results of the consultations, as seen by the rapporteur.

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, paras. I.A.5 (a) and I.B.7 (cf. in this context CD/CW/WP.148), in the Annex to Article VI [2], para. 2, in the Annex to Article VI [3], para. 1 (iv), and in the case of "Possible factors identified to determine ... Schedule [2] chemicals", contained in CD/782 App. II, p. 12.

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 =  
=  $\frac{\text{quantity produced}}{\text{hours of production}}$  x constant x no. of units

or in the case of dedicated units not yet in operation

=  $\frac{\text{nameplate or design capacity}}{\text{hours of planned operation}}$  x constant x no. of units

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 remains 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 [4], 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 5 tonnes.

In the case of the Annex to Article VI [1], 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.

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.

MODELS FOR AGREEMENTS

A. MODEL FOR AN AGREEMENT RELATING TO FACILITIES PRODUCING,  
PROCESSING OR CONSUMING CHEMICALS LISTED IN SCHEDULE [2] 1/

1. Identification of the facility

- (a) Facility identification code
- (b) Name of the facility
- (c) Owner(s) of the facility
- (d) Name of the company or enterprise operating the facility
- (e) Exact location of the facility
  - . 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
- (f) Determination of the area(s) and place(s)/site(s) to which inspectors shall have access

2. Information on the facility

This agreement is based on the design information obtained during the initial visit on [date of visit]. Design information should include:

- (a) Data on the production process (type of process: e.g., continuous or batch; type of equipment; the technology employed; process engineering particulars)
- (b) Data on processing with conversion into another chemical (description of the conversion process, process engineering particulars and end-product)
- (c) Data on processing without chemical conversion (process engineering particulars, description of the process and the end-product, concentration in the end-product)
- (d) Data on waste treatment (disposal and/or storage, waste treatment technology, recycling)

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1/ This paper relates to agreements which have commonly been named "facility attachments". Further work is needed on this issue.

- (e) Data on safety and health measures at the facility
- (f) Data on clean-up procedures and general overhauls
- (g) Data on feedstocks used in the production or processing of declared chemicals (type and capacity of storage)
- (h) Maps and plans of the facility, including data on infrastructure for transportation (site maps showing, for example, all buildings and functions, pipework, roads, fences, mains electricity, water and gas points, and diagrams indicating the relevant material flow at the designated facility)

### 2.1. Storage of information

Designation of information, provided about the facility under paragraph 2, which shall be kept by the International Authority under lock and key at the facility. (In the event of unresolved ambiguities, the International Authority shall have the right to study such information.)

### 3. Number and modalities of inspections.

After the initial visit, the number and modalities of inspections shall be decided by the Technical Secretariat on the basis of guidelines (compare CD/CW/WP.167, page 63, subparagraph 5.ii. and CD/CW/WP.167, Appendix II, page 3).

### 4. Verification measures and identification of the specific area(s) and place(s) of a facility to be inspected

(a) Identification of the relationship between feedstocks and the quantity of end-products

(b) Identification of key points for measurement (KMP) and sample-taking (STP)

(c) Identification of methods for continuous monitoring and surveillance, e.g.

- . key points for the application of monitoring and surveillance measures
- . installed instruments and devices, seals and markers, methods to check the proper functioning of those instruments, servicing of installed instruments
- . activities to be undertaken by the State Party concerned with a view to providing the conditions necessary for the installation and proper functioning of the devices

(d) Certification of relevant losses within the production process and their implications for key measurement points (KMP)

5. Inspection activities

5.1. Mode of routine inspection

To be developed on the basis of the initial visit

5.2. Indication of the scope of the inspection effort in agreed areas under ordinary circumstances

Access to the area to be inspected, including all key points. Activities may comprise:

- (a) Examination of relevant records
- (b) Identification of relevant plant equipment
- (c) Identification and validation of measuring equipment (examination and calibration of measuring equipment; verification of measuring systems using, as appropriate, independent standards)
- (d) Taking of analytical samples
- (e) Verification of chemical inventory records
  - . verification of the operator's inventory-taking for completeness and accuracy
  - . verification of the quantities of feedstocks
- (f) Observation of operations relating to movement of chemical substances in the plant
- (g) Installation, servicing and review of surveillance and monitoring instruments
- (h) .  
.  
.

5.3. Specific arrangements for the use of special equipment

As the need arises, specific arrangements for the use of special equipment, as requested by inspectors.

6. Provisions governing sample-taking, on-site analyses of samples and on-site analysis equipment

- (a) Sample-taking (e.g., standardized procedures)
- (b) On-site analyses (e.g., provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)
- (c) Duplicates and additional samples

7. Records

7.1. Type of records

The records to be examined shall be determined after the initial visit and shall include the following:

(a) Accounting records (for example, discards, retained wastes, shipments of end-products, receipts/shipments)

(b) Operating records

Operating records used to establish the quantity, quality and composition of the end-product. These may include:

- . Information on any accident that resulted in a loss/gain of material
- . Information on dissolution, evaporation, etc.

(c) Calibration records

Information on the functioning of analytical/monitoring equipment

7.2. Location and language of records

To be determined during the initial visit

7.3. Access to records

To be determined after the initial visit

7.4. Retention period of records

To be determined on the basis of the initial visit

8. Services to be provided by the facility

Point of contact for each type of service, e.g.

- . operator assistance
- . medical and health services

9. Specific facility health and safety rules and regulations to be observed by inspectors

10. Changes, revision and updating of advance information to be provided on the facility

(To be announced in reference to the paragraph on the design information obtained during the initial visit)

11. Interpretation services

B. MODEL FOR AN AGREEMENT RELATING TO SINGLE  
SMALL-SCALE PRODUCTION FACILITIES 1/

Proposal by the Co-ordinator of Cluster IV

1. Information on the single small-scale production 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)

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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 International Organization 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 <sup>1/</sup>

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

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<sup>1/</sup> The question of charges for the services needs to be discussed.

- (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

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;

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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

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1/ The question of charges for the services needs to be discussed.

## 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. 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, (paragraphs 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. The Material under Part II refers to the process after the submission of the report and has been subject to less thorough consultations by the Chairman. However a number of points and questions have been raised. They are summarized in Part II, as seen by the Chairman.

### 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.

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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.

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 ...].

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1/ A time span of 24-48 hours from the request to the arrival has been discussed.

2/ Situations could be envisaged, i.a. 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.

(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.

(The process after the submission of the report)

(To be elaborated)

PART II

Consideration of the Report

- Whether the Executive Council should meet as soon as possible to consider the Report?

1. The character of the evaluation

(a) The role of the requesting State and the significance of whether that State Party, is satisfied or not,

(b) Should the Executive Council establish formally (i) whether it considers a violation of the Convention has taken place?, (ii) whether an abuse of the rights under Article IX has taken place?

(c) If a violation has been established as a consequence of the evaluation of the report, what further steps?

(i) measures with a bearing on the violating State Party, such as suspension of rights and privileges, export control arrangements etc.,

(ii) a request that the violator remedy the situation,

(iii) assistance to States Parties threatened as a consequence of violations (Art. X),

(iv) convening of a special meeting of the Consultative Committee/ General Conference,

(v) other measures,

(d) If no formal establishment of violation is called for, could the steps mentioned under (c) above anyhow be undertaken?

(e) Measures of two types:

- (i) directives to the Secretariat to undertake certain actions,
- (ii) recommendations to the States Parties to undertake certain action.

2. The process of the evaluation

(a) How should the Executive Council arrive at its positions

- (i) unanimously
- (ii) qualified majority
- (iii) simple majority
- (iv) other.

(b) In which form should the Executive Council express itself

- (i) decisions
- (ii) opinions
- (iii) other.

(c) The role of the requesting and the requested State in the process of evaluation of the Executive Council

- (i) participation in the deliberation of the Council
- (ii) non-participation.

3. The role of Consultative Committee/General Conference in the evaluation

- (a) establish a violation,
- (b) make decision,
- (c) make recommendations,
- (d) endorse positions taken by the EC.

Concerning the process of evaluation of the Consultative Committee/General Conference, compare alternatives under Executive Council above.

4. In the event of an abuse of the rights under Article IX, what measures to be considered,

- (a) notification of States Parties
- (b) compensation to the requested party
- (c) other.

OUTSTANDING ISSUES

The "substantive" part of the Draft Report

1. A proposal was made that the text in Addendum 2 to Appendix I should be placed somewhere else.

Consequential reformulation of footnote 2 on page of 6 in Appendix I.

2. A proposal was made that the discussion paper mentioned in footnote 2 on page 9 in Appendix I should be included in Appendix II.

Suggestions by the Chairman:

- (i) Addendum 2 to Appendix I in extenso becomes a new Appendix III.
- (ii) Footnote 2 on page 6 in Appendix I is changed to read "Recommended procedures for toxicity determinations are attached in Appendix III".
- (iii) Paragraph 6 (b) in the "technical" part of the Draft Report is adjusted accordingly: "That other documents reflecting the state of work of the Ad Hoc Committee, as contained in Appendix II to this Report, together with Appendix III and other relevant present and ..."
- (iv) That footnote 2 on page 9 in Appendix I remains unchanged.

The "technical" part of the Draft Report

1. A proposal was made that a new paragraph 5 be included listing official documents presented.
2. The question of additional paragraph(s) on recommendations on chairmanship and mandate for the 1988 session.

ARTICLE X, ASSISTANCE

During the resumed session work under this Article was initiated. In the course of the deliberations a number of questions were identified which indicate possible approaches to the issues involved but which warrant further consideration by delegations. With the aim of facilitating further work the Chairman has summarized below the questions raised.

I. Assistance in relation to protection against chemical weapons

Various needs for assistance in relation to protection against chemical weapons have been mentioned. They fall broadly into the following categories:

1. Assistance in the case of actual use of chemical weapons against a State Party

A number of questions need to be further discussed.

(a) The character of such assistance

(Some examples given of what such assistance could possibly consist of were: protective equipment and advice on protective measures, medical antidotes and treatments, detection equipment and alarm systems, decontamination equipment and decontaminants).

(b) Who should provide the assistance

- State Parties between themselves on a voluntary basis? (Questions were raised as to the need to include provisions in the convention on voluntary assistance).
- State Parties directly between themselves on a mandatory basis?
- The Technical Secretariat?

If this is to be the case provisions would be needed for the Technical Secretariat to have access to material and services required. How could that be arranged? (In this context it was suggested that State Parties, in a position to do so, on a voluntary basis could provide the Technical Secretariat with lists of material and services which they could make available, if need be).

(c) What kind of procedures would be required to trigger assistance in the two latter cases above?

- A decision by the Executive Council, possibly following a fact-finding procedure?
- A recommendation by the Executive Council, possibly following a fact-finding procedure?
- Automaticity upon request?

It was pointed out that the procedures would have to be such that speedy action was ensured. (Suggestions were made that procedures similar to those applicable for an on-site inspection on challenge could be discussed).

Some discussions also took place on the need to ensure that assistance provided was compatible with the Charter of the United Nations.

2. Assistance in the case of threat of use of chemical weapons by a non-State Party

The same questions arose as under point 1 above. In addition it appears that some kind of evaluation of the threat would be needed.

(Furthermore, there were differing views as to whether it was useful to differentiate between assistance in cases of actual use and cases of threat of use of chemical weapons).

3. Assistance to develop and improve protective capacity

II. Assistance in relation to obligations deriving from the Convention

Various situations could be envisaged when States Parties might want to request assistance to carry out its obligations under the Convention.

During the deliberations the question arose whether this kind of assistance should be dealt with in the context of Article X. Suggestions were made that it would be more appropriately included in the context of the respective other Articles in the Convention or in a new separate Article.

III. Measures against a State using or threatening to use Chemical Weapons were also discussed, in a limited fashion.

It was suggested that this issue could be dealt with in the same manner and context as other possible measures to be considered against States acting in violation of the Convention.

(One example of a possible measure which was mentioned was the halting of export of certain chemicals to such a State. Also restrictions with regard to transfer of technology in the field of chemistry was considered a possibility. Another could be that the Security Council may be called upon to take measures in accordance with Chapter VII of the United Nations Charter. In this context the usefulness of, or the need for, including wording corresponding to the Article VII of the BW-Convention could be discussed).

ARTICLE XI, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT

No text presently exists under this Article. In order to initiate discussion on the issues involved the Chairman presented a discussion paper with points for consideration, largely modelled on Article X of the BW-Convention and the Final Declaration of the second review conference of the BW-Convention. The views expressed by delegations indicated different approaches to the issues involved and no conclusions were reached. Further work is needed and the discussion points below are presented by the Chairman with the sole aim of facilitating further preparatory work by delegations.

1. That the States Parties to the Convention should facilitate and promote as well as have the right to participate in, the fullest possible exchange between them of chemicals and equipment and information relating to development, and application of chemistry for peaceful purposes with the aim of promoting equitable economic and technological co-operation.
2. That the States Parties between themselves should, to the fullest possible extent, provide access to and share their scientific and technological knowledge in the field of chemistry, on an equal and non-discriminatory basis for peaceful purposes, with due consideration for the needs of the developing countries.
3. That nothing in the Convention should be interpreted as establishing any discrimination between States Parties as regards their duties, obligations and responsibilities under the Convention, as well as their right to the development of chemical technology and industry for peaceful purposes.
4. That the Convention should 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.  
(This paragraph is taken from Article VI:8. Its placement could be discussed).

## APPENDIX III

### PROCEDURES FOR TOXICITY DETERMINATIONS

In March 1982 consultations were held, involving 32 experts from 25 countries, i.a. on toxicity determination.

As a result of the discussions, the participants in the consultations unanimously agreed to recommend standardized operating procedures for acute subcutaneous toxicity determinations and for acute inhalation toxicity determinations. These unanimously agreed recommendations were submitted as Annexes III and IV to document CD/CW/WP.30.

It is understood that further work may be needed to take into account technical developments since 1982. In order to facilitate this work Annexes III and IV to CD/CW/WP.30 are reproduced as Appendix III.

### ANNEX III

#### RECOMMENDED STANDARDIZED OPERATING PROCEDURES FOR ACUTE SUBCUTANEOUS TOXICITY DETERMINATIONS

##### 1. Introduction

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

- (i) super-toxic lethal chemicals;
- (ii) other lethal chemicals;
- (iii) other harmful chemicals.

Lethality limits in terms of LD<sub>50</sub> for subcutaneous administration were established to separate three toxic categories at 0.5 mg/kg and 10 mg/kg.

##### 2. Principles of the test method

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

##### 3. Description of the test procedure

3.1 Experimental animal Healthy young adult male albino rats of Wistar strain weighing 200 ± 20 g should be used. The animals should be acclimatized to the laboratory conditions for at least five days prior to the test. The temperature of the animal room before and during the test should be 22 ± 3°C and the relative humidity should be 50-70 per cent. With artificial lighting, the sequence should be 12 hours light, 12 hours dark. Conventional laboratory diets may be used for feeding with an unlimited supply of drinking water. The animals should be group-caged but the number of

animals per cage should not interfere with proper observation of each animal. Prior to the test, the animals are randomized and divided into groups; 20 animals in each group.

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

## ANNEX IV

### 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 airsteam through a solution containing the material (e.g. bubbling chamber);
- (iii) by diffusion of the agent through a suitable material (e.g. diffusion chamber).

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

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

- (i) the rate of air flow (preferably continuously);
- (ii) the actual concentration of the test substance during the exposed period;
- (iii) temperature and humidity.

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

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

#### 4. Data reporting

A test report should include the following information:

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

- (ii) Exposure data: air flow rate, temperature and humidity of air, nominal concentration (total amount of test substance fed into the equipment divided by volume of air), actual concentration in test breathing zone;
- (iii) Animal data: strain, weight and origin of animals;
- (iv) Test substance characterization: chemical composition, origin, batch number and purity (or impurities) of the substance; boiling point, flash point, vapour pressure; date of receipt, quantities received and used in the test; condition of storage, solvent used in the test;
- (v) Results: number of dead animals in each group, evaluation of results.







LETTER DATED 1 FEBRUARY 1988 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA, ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT, TRANSMITTING THE TEXT OF A DOCUMENT ENTITLED "JOINT U.S.-SOVIET SUMMIT STATEMENT" ISSUED BY THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON 10 DECEMBER 1987 AT THE CONCLUSION OF THE MEETING BETWEEN THE PRESIDENT OF THE UNITED STATES, RONALD REAGAN, AND THE GENERAL SECRETARY OF THE CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF THE SOVIET UNION, MIKHAIL GORBACHEV, IN WASHINGTON, 7-10 DECEMBER 1987

I have the honour to transmit herewith the text of a document entitled "Joint U.S.-Soviet Summit Statement" issued by the United States of America and the Union of Soviet Socialist Republics on 10 December 1987 at the conclusion of the meeting between the President of the United States, Ronald Reagan and the General Secretary of the Central Committee of the Communist Party of the Soviet Union, Mikhail Gorbachev, in Washington, 7-10 December 1987.

I would request that you make arrangements for the Statement to be issued as an official document of the Conference on Disarmament.

(Signed)

Max L. Friedersdorf  
United States Representative  
to the Conference on Disarmament

Chemical weapons

The leaders expressed their commitment to negotiation of a verifiable, comprehensive and effective international convention on the prohibition and destruction of chemical weapons. They welcomed progress to date and reaffirmed the need for intensified negotiations toward conclusion of a truly global and verifiable convention encompassing all chemical weapons-capable States. The United States and Soviet Union are in favour of greater openness and intensified confidence-building with respect to chemical weapons both on a bilateral and a multilateral basis. They agreed to continue periodic discussions by experts on the growing problem of chemical weapons proliferation and use.





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UNITED STATES OF AMERICA

Thresholds for monitoring chemical activities  
not prohibited by a convention

One of the objectives of a future chemical weapons convention would be to provide confidence that chemical activities not prohibited by the convention are not used for production of chemical weapons. Article VI of the draft convention contains monitoring régimes for three categories of chemicals that are deemed to pose a special risk to the objectives of the convention.

The three categories of chemicals represent different levels of military significance and therefore different levels of risk. The stringency of the verification régime associated with each category should be in proportion to the risk posed by the chemicals in that category. The most stringent régime is for Schedule 1 chemicals, which present the highest level of risk.

Below some amount or "threshold", the production, processing or consumption of a chemical will pose minimal risk to the convention's objectives. Logically, the threshold level will depend on the amount of the chemical that would be militarily significant. Thus, the threshold should be lower for Schedule 1 than for Schedule 2, for example. Also the threshold should be selected so as to deter the accumulation of any chemical sufficient to pose a material risk in a relatively short time period.

Several approaches have been put forward to define the thresholds of production of chemicals of concern to the convention. The paper presented by Dr. Peroni, Brazil; Lt. Col. Bretfeld, German Democratic Republic; and Dr. Ooms, Netherlands (30 March 1987) described two methods of calculating thresholds based on equivalence factors for different agents and illustrative levels for a militarily significant chemical weapons capability.

In CD/CW/WP.166 (24 April 1987), the German Democratic Republic presented a similar method of calculation for key precursor thresholds that was also based on equivalence or effectiveness factors from "The Chemical Industry and the Projected Chemical Weapons Convention", Volume I, SIPRI, 1986, page 89.

This paper proposes threshold quantities for each of the three schedules of chemicals. In contrast to the approaches discussed above, these thresholds do not vary from chemical to chemical within a particular list. Although the facility "capacity" is of concern and constitutes a potential risk to the convention, the thresholds proposed are based on the actual annual production, processing or consumption of the chemicals of concern. Capacity of the plant may be taken into account in determining the frequency of on-site inspections.

As the terms of a convention are refined, and especially as the need to add or delete chemicals to the lists arises, the threshold quantities may change to reflect varying degrees of toxicity, allowance for legitimate use in larger quantities than anticipated, or other as yet unrecognized factors. The suggested thresholds and the specific monitoring régimes governing their production should be considered representative rather than absolute.

Schedule 1 of the convention includes chemicals of highest risk to the convention. Legitimate civil and military uses are very limited and should be subject to stringent control. Production of laboratory quantities could be allowed for research, medical and protective purposes without international monitoring. For ultratoxic substances, such as saxitoxin and any other listed substances of similar toxicity, only 10 grams/year would be permissible. For other Schedule 1 materials, up to 100 grams/year would be allowed. Production of larger quantities, in excess of the 10 grams/year or 100 grams/year thresholds, should be subject to stringent limitations and systematic international on-site verification.

The second threshold of 10 kilograms/year recognizes the possible need for larger quantities of a few of these materials for research and medical purposes. For example, one of the nitrogen mustards has been used for many years in the treatment of cancer. The threshold proposed allows the production of up to 10 kilograms/year of a Schedule 1 chemical at a facility, subject to an advance notification requirement, annual data declaration and systematic on-site verification, including routine inspection.

No need is currently foreseen for quantities of Schedule 1 chemicals above 10 kilograms/year for research or medical purposes. Production of Schedule 1 chemicals for protective purposes in quantities greater than 10 grams of saxitoxin or similar substances, or 100 grams/year of other substances, would have to take place at a single small-scale facility, subject to stringent declaration and strict on-site verification. If Schedule 1

chemicals were ever needed for research or medical purposes in quantities greater than 10 kilograms/year, this same régime would apply and the chemicals would be made in the single small-scale facility. Schedule 1 chemicals for all permitted purposes would be limited to a 1,000 kilograms (1 metric ton) per year aggregate and would be subject to declarations and continuous monitoring with instruments. In addition to the limit on the rate of production, Schedule 1 chemicals would also be restricted so that the aggregate amount at any given time for permitted purposes does not exceed the 1,000 kilogram threshold.

Schedule 2 would include the chemicals of medium risk to the convention; up to 1 metric ton may be produced at a facility without declaration. Beyond that threshold, annual data declarations would be required. The range of 1-10 metric tons proposed corresponds to the level of thresholds of the key precursors cited in the referenced German Democratic Republic paper (CD/CW/WP.166) which would be calculated using the effectiveness factor. This range would require annual declaration, but not routine on-site inspection. Above 10 tons/year, the facility would be subjected to routine on-site inspection. During the on-site inspections, raw materials and material balances should be determined, inter alia, to assure that only permitted activities are being conducted. The frequency of on-site inspection and need for on-site continuous monitoring would depend on the capacity of the facility, as well as other relevant factors. Above about 100 metric tons/year of production at a facility it would be possible to withdraw or divert sufficient precursors to establish a militarily significant CW capability in a period of months to a few years. Thus, more stringent monitoring would be warranted. How this monitoring would be carried out needs to be discussed further.

Schedule 3 would include chemicals of lower risk and production up to 30 tons per year at a facility should be permitted with no declaration. Above the 30 ton-per-year threshold, an annual declaration should be required so that the Technical Secretariat can monitor where these materials are produced and where they are being allocated in large quantities. (This approach is simpler than the alternative approach - noted in CD/782, page 70, footnote 1/ - under which separate thresholds would be established for toxic chemicals and precursors. The alternative approach could, of course, be explored).

Table 1 contains the thresholds and associated monitoring régimes proposed. These thresholds should allow for the production of commercial chemicals and pharmaceuticals of economic importance to all States with the least intrusion by the CW convention. At the same time, the chemicals of highest risk to the convention should be monitored closely and the facilities of highest risk subjected to on-site inspection to ensure that the aims of the CW convention are upheld.

TABLE 1

THRESHOLDS AND MONITORING REGIMES

THRESHOLDS FOR A FACILITY

MONITORING REGIMES

SCHEDULE 1 CHEMICALS

Up to 10 grams/year of saxitoxin  
or similar substances and up to  
100 grams/year of other chemicals

- Research and medical purposes
- Protective purposes
- no international monitoring
- no international monitoring

Above the first threshold up to  
10 kg/year

- Research and medical purposes
- For protective purposes
- production reported in advance to Consultative Committee, annual data declaration, systematic international on-site inspection
- produced at the single small-scale facility, included in 1 metric ton/year aggregate limit, subject to systematic international on-site inspection

10 kg/year to 1,000 kg/year

- For all permitted purposes
- produced at the single small-scale facility, included in 1 metric ton/year aggregate limit, subject to systematic international on-site verification, including possible continuous monitoring with instruments

SCHEDULE 2 CHEMICALS

- Up to 1,000 kg/year
- 1 ton to 10 tons/year
- Above 10 tons/year
- no international monitoring
- annual data declaration
- annual data declaration and on-site inspection at least once every year. Frequency of on-site inspection and possible need for continuous monitoring with instruments would depend on the capacity of the facility and other relevant factors

SCHEDULE 3 CHEMICALS

- Up to 30 tons/year
- Above 30 tons/year
- no international monitoring
- annual data declaration







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Decision on the Re-establishment of the  
Ad Hoc Committee on Chemical Weapons

(Adopted at the 438th plenary meeting on 9 February 1988)

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 resolution 42/37 A, 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 1988 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 1988 session.

The Conference further decides that the Ad Hoc Committee will report to the Conference on the progress of its work before the conclusion of the first part of its 1988 session, in view of the convening of the Third Special Session of the General Assembly devoted to disarmament.







LETTER DATED 15 FEBRUARY 1988 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT BY THE PERMANENT REPRESENTATIVES OF ARGENTINA, INDIA, MEXICO AND SWEDEN TRANSMITTING A DOCUMENT ENTITLED THE "STOCKHOLM DECLARATION" ADOPTED IN STOCKHOLM ON 21 JANUARY 1988 BY THE FIVE HEADS OF STATE OR GOVERNMENT OF ARGENTINA, GREECE, INDIA, MEXICO AND SWEDEN AND THE FIRST PRESIDENT OF TANZANIA

As a result of their continued examination of questions relating to disarmament and international peace and security, the Five Heads of State or Government of Argentina, Greece, India, Mexico and Sweden and the First President of Tanzania adopted in Stockholm, Sweden, on 21 January a document entitled the "Stockholm Declaration".

The Stockholm Declaration - the text of which is annexed to this letter in English and in Spanish - relates to several items on the agenda of the Conference on Disarmament. We are convinced that the Declaration contains ideas and perspectives which can be positively useful in our common endeavour to promote the cause of disarmament and peace. We therefore request that the text be reproduced and distributed as a document of the Conference.

(Signed) Mario Cámpora  
Ambassador  
Permanent Representative of  
Argentina for Disarmament  
Affairs

(Signed) Jaskaran Singh Teja  
Ambassador  
Permanent Representative of  
India to the United Nations  
Office at Geneva

(Signed) Alfonso Garcia Robles  
Ambassador  
Permanent Representative of  
Mexico to the Conference on  
Disarmament

(Signed) Rolf Ekéus  
Ambassador  
Permanent Representative of  
Sweden to the Conference on  
Disarmament

The Conference on Disarmament, the single multilateral disarmament negotiating forum, should be strengthened and made a more effective instrument for achieving nuclear disarmament and for the elimination of all other weapons of mass destruction. A convention for the prohibition and destruction of chemical weapons should be urgently concluded. It would also provide an example for future efforts in the multilateral field.





# CONFERENCE ON DISARMAMENT

CD/808  
CD/CW/WP.188  
19 February 1988

ENGLISH  
Original: RUSSIAN

LETTER DATED 18 FEBRUARY 1988 FROM THE REPRESENTATIVE OF  
THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED TO THE  
PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING  
A DOCUMENT ENTITLED "MEMORANDUM ON MULTILATERAL DATA  
EXCHANGE IN CONNECTION WITH THE ELABORATION OF A CONVENTION  
ON THE COMPLETE AND GENERAL PROHIBITION AND DESTRUCTION  
OF CHEMICAL WEAPONS (PROPOSAL BY THE USSR)"

I have the honour to transmit herewith a document entitled "Memorandum on multilateral data exchange in connection with the elaboration of a convention on the complete and general prohibition of chemical weapons (proposal by the USSR)".

I should be grateful if you would arrange for this memorandum to be circulated as an official document of the Conference on Disarmament and as a working paper of the Ad hoc Committee on Chemical Weapons.

(Signed) Y. Nazarkin  
Representative of the USSR  
to the Conference on Disarmament

MEMORANDUM

ON MULTILATERAL DATA EXCHANGE IN CONNECTION WITH THE ELABORATION  
OF A CONVENTION ON THE COMPLETE AND GENERAL PROHIBITION AND  
DESTRUCTION OF CHEMICAL WEAPONS

(PROPOSAL BY THE USSR)

The Soviet Union proposes that a multilateral exchange of data on chemical weapons be effected with a view to facilitating the earliest possible elaboration, agreement, signature and entry into force of an international convention on the complete and general prohibition and destruction of chemical weapons and, in particular, facilitating the practical resolution of the issues of international verification and of creating an atmosphere of confidence.

It would be desirable if, as an act of good will, every State participating in the negotiations submitted in the first half of 1988 the following information:

1. ON CHEMICAL WEAPONS STOCKS:

Whether it possesses chemical weapons stocks on its national territory or on the territory of other States (indicating those States);

Whether there are on its territory chemical weapons stocks belonging to other States;

The amount of its chemical weapons stocks. \*/

2. ON CHEMICAL WEAPONS PRODUCTION FACILITIES:

Whether it has chemical weapons production facilities;

Whether the production of chemical weapons is taking place or has been stopped.

3. ON PAST TRANSFERS TO OTHER STATES OF CHEMICAL WEAPONS OR OF TECHNOLOGY OR EQUIPMENT FOR THEIR PRODUCTION:

Whether chemical weapons or technology or equipment for their production have been transferred to other States (indicating the States to which they have been transferred);

Whether chemical weapons or technology or equipment for their production have been received (indicating the States from which they have been received).

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\*/ Approximate amount is meant, e.g. "not more than ... tonnes in terms of chemical warfare agents".

Thereafter it would be desirable if every State participating in the negotiations submitted, at a time to be agreed, the following information:

The number of chemical weapons storage facilities;

The number of chemical weapons production facilities;

The number of laboratories, research establishments and proving grounds which specialize (specialized) in the development of chemical weapons;

The number of laboratories using Schedule [1] chemicals for purposes not related to chemical weapons;

The number of chemical weapons destruction facilities;

The number of commercial (civil) facilities for the production of key precursors and dual-purpose chemicals for peaceful purposes.

The information should cover the participating State's facilities whether situated on its national territory or on foreign territory (indicating the States where such facilities are situated).

Bearing in mind that some provisions regarding the proposed data exchange (e.g. the definition of chemical weapons, the Schedules of chemicals, etc.) have not yet been finally agreed in the negotiations, it would be desirable if the data submitted by States were accompanied by the corresponding explanations.

It would be useful if States which do not participate in the negotiations on a convention on the complete and general prohibition and destruction of chemical weapons also provided the aforementioned information.

The Soviet Union looks forward to a positive response to its proposal on data exchange, which is intended to speed up the elaboration of a convention and to strengthen confidence and increase openness in the field of chemical weapons.







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ARGENTINA

Assistance in relation to protection against chemical weapons

Introduction

Article II of the draft convention on the prohibition of chemical weapons (CD/795, appendix I) defines purposes not prohibited by the convention as including protective purposes, namely those purposes directly relating to protection against chemical weapons. A consensus has also been reached that article X refers to assistance in relation to protection against chemical weapons.

As a result of the debates on article X, the following three possible forms of assistance in relation to protection against chemical weapons have been identified:

- (a) Assistance in the case of actual use of chemical weapons against a State party;
- (b) Assistance in the case of threat of use of chemical weapons by a State not party;
- (c) Assistance to develop and improve protective capacity (CD/795, appendix II).

As clearly stated in document CD/752, which was submitted by Pakistan and is the most detailed proposal on the question of assistance, the entry into force of the Convention would not by itself rule out the use or threat of use of chemical weapons. It is possible that States possessing chemical weapons will not accede to the Convention or that States which are not parties to the Convention will develop chemical weapons. Moreover, the possibility that a State may act in violation of the Convention cannot be ruled out. Possibilities of the use or threat of use of chemical weapons will therefore continue to exist after the Convention has entered into force, although they will be less likely as the number of States parties increases and the verification machinery becomes more effective.

Every State is entitled to guarantee its own defence, and its security cannot be based either on universal accession to a treaty, which is a desirable goal, but one which will be achieved only in the long run, or on the accession of all States with a chemical weapons capability, since even a country with a relatively low level of economical and technological development would be in a position to manufacture a chemical weapon. Every State therefore must have the right to acquire the means of protection against chemical weapons that it considers suited to its own particular characteristics and to the regional context of which it is an integral part.

#### Characteristics of assistance

Assistance in relation to protection against chemical weapons should include, inter alia, the following elements:

- (1) Detection equipment and alarm systems against chemical agents, to be used in theatres of operations and in urban areas;
- (2) Individual and collective protective equipment and materials, bearing in mind the characteristics of the population to be protected;
- (3) Instruments, and equipment used for treatment, antidotes and up-to-date information on preventive measures, preventive services and medical treatment in rural areas and in hospitals in urban areas;
- (4) Decontamination equipment and decontaminants, to be used in permanent urban structures and means of transport;
- (5) Training of staff in charge of maintaining and operating the above-mentioned protection facilities;
- (6) Specific scientific and technological information on assistance, especially with regard to preventive medicine, emergency care and the effects of substances that may be used in chemical weapons;
- (7) Transfer of technology for the production of means of protection against chemical weapons.

#### Basic criteria to govern the provision of assistance

The provision of assistance in relation to protection against chemical weapons, both for the development and improvement of protective capacity and for cases of the use or threat of use of chemical weapons, should be based on the following criteria:

A. Every State party will have the right to acquire, without restriction and on a non-discriminatory basis, equipment, materials and technology, comprehensive scientific and technological information and

training in order to provide its armed forces, as well as the civilian population, with means of protection against chemical weapons, in accordance with its interests, needs and priorities.

Since technological advances have made it possible to develop new vectors and CW agents against which general knowledge of traditional decontamination and treatment methods does not offer adequate protection, there has to be a possibility of acquiring more effective means of protection.

B. All States parties will undertake to provide any State party which requests them to do so with any equipment, materials and scientific and technological information for protection against chemical weapons that may have available for their own armed forces and civil defence.

This undertaking is designed to create an atmosphere of trust such that every State can count fully on the support afforded by the possibility of acquiring whatever it may consider necessary for its own protection, for purposes not prohibited by the Convention and without having to overcome any obstacles or restrictions that may arise.

The fact that every State party will be able to acquire the types of assistance referred to above, in accordance with its own needs and possibilities for domestic use, will serve to regulate the requests made, so that the assistance to be provided by the States which are more advanced in protection against chemical weapons does not become an added responsibility that may prevent them from complying with requests as agreed bilaterally.

C. The Technical Secretariat will play an advisory and co-ordinating role with regard to assistance. At the request of a State party, experts from the Technical Secretariat will be able to determine what means of protection against chemical weapons that State needs, to advise on which means are the most appropriate and to identify the countries which would be in a position to provide such assistance.

D. Every State party will have the right to engage in research and development on and the production, transfer and use of means of protection against chemical weapons.

E. In specific cases of the use or threat of use of chemical weapons, and in addition to any assistance which has been provided or has been or may be received for protection against chemical weapons, the following machinery might be set up:

- (i) When a State party has been attacked by chemical weapons or considers that it has been threatened by chemical weapons, it may make a request to the Executive Council for assistance, duly stating the grounds for the request;
- (ii) The Executive Council will consider any such request as soon as it has been received;
- (iii) If it considers the request for assistance to be valid, it will instruct the Technical Secretariat to confirm the complaint, investigate the facts and make an inventory of requirements by means of an on-site inspection, if necessary and possible;
- (iv) After the Executive Council has received the report of the Technical Secretariat, it will decide whether assistance is required and, if so, will instruct the Technical Secretariat to ask for the assistance of those countries which are in a position to provide it, according to the needs identified. It will also co-ordinate the assistance in order to make it available as rapidly as possible, together with support for the treatment of wounded persons and advice on preventive measures.

#### Conclusions

The Argentine delegation hopes that the suggested guidelines may serve as a basis for the preparation of article X of the draft convention, so that a detailed and effective provision on assistance may be formulated in order to strengthen the security of the States parties.

It should also be pointed out that, in the view of the Argentine delegation, no assistance which has been given to States parties that have requested it or which they have provided implies any enhancement of their offensive military capability. Assistance for protection against chemical weapons does not imply endorsing theories on the use of chemical weapons or developing or strengthening an attack capability. On the contrary - it has to do with active and passive protective measures against such types of weapons, taking particular account of the need to set up an appropriate system of defence for the civilian population.

Military experts are not unaware that the possession of an offensive chemical capability involves mastering operational information falling within a policy framework, and having specific military training and appropriate

vectors and systems for offensive action, which cannot be acquired and used as a result of the possibility of access to protective measures alone.

The possession of means of protecting the civilian population and troops, whose purpose is to defend their territory, cannot signify anything other than strengthening the security of a State, whose accession to the Convention will be an adequate assurance of the defensive use of such means and a major prerequisite for assistance to other States parties, as well as a reliable demonstration of its desire for peace and its renunciation of the use of a category of weapons that has repeatedly been disavowed by all of mankind.







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GERMAN DEMOCRATIC REPUBLIC

Working Paper

Chemical Weapons Convention

The Executive Council: Composition, Size, Decision-  
making and Other Procedural Matters

I.

1. Membership of this organ will have to be limited. The figure of 21 members can be proposed as a basis for discussion.
2. The composition of this organ must correspond both to the security implications of many decisions entrusted to the Executive Council and the global character of the Convention. Equitable political and geographical distribution of seats among States parties should, therefore, be the guiding principle. That means:
  - (i) The membership of this organ should be balanced along the lines of that of the Conference on Disarmament, which negotiates the Convention.
  - (ii) In observing the principle set out in (i), it should be ensured that the various geographical regions are represented in the Council.
  - (iii) An appropriate number of countries with developed chemical industries should be among the candidates to be selected in the respective groups. Relevant criteria should be established to this effect.
3. All members of the Executive Council should be elected by the General Conference for two-year terms. Re-election of members should be possible.
4. Decisions should be taken by a [two-thirds majority]. For any decision to be adopted, the support of significantly more than the members of just one political group would be needed.

5. The work of the Executive Council should be organized in such a way as to ensure that member States will be kept informed of the proceedings of the Council. States parties should have the right to bring to the attention of this organ any issue relevant to the Convention. Representatives of States parties may participate, without the right to vote, in Council sessions devoted to items of special interest to them.

## II.

Details concerning the election of Executive Council members:

### 1. Regional groups

Eastern Europe, western Europe and others, Africa, Asia, Latin America.

Each region should propose two candidates. The Asian region may propose three candidates.

### 2. Additional candidates

In order to achieve the politically balanced membership referred to in I.2.(i), the political groups will have to propose as many candidates as are necessary to ensure that the Executive Council comprises 10 members of the Group of Non-Aligned and Neutral Countries, 5 members each of the Group of Socialist Countries and the Group of Western Countries, and China. For these candidates, the principle set forth under I.2.(iii), will also have to be applied.





LETTER DATED 7 MARCH 1988 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE OF NORWAY TRANSMITTING A PUBLICATION ENTITLED "CONTRIBUTIONS BY NORWAY TO THE CONFERENCE ON DISARMAMENT 1982-1987" 1/

I have the honour to transmit to you a publication entitled "Contributions by Norway to the Conference on Disarmament 1982-1987".

I would appreciate if the publication would be circulated as an official CD document.

(Signed)

Martin Huslid  
Ambassador  
Permanent Representative of Norway

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1/ A limited distribution of this publication 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.







# CONFERENCE ON DISARMAMENT

CD/821  
CD/CW/WP.196  
29 March 1988

ENGLISH  
Original: RUSSIAN

LETTER DATED 28 MARCH 1988 FROM THE REPRESENTATIVE OF THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT, TRANSMITTING THE TEXT OF A STATEMENT BY THE MINISTRY OF FOREIGN AFFAIRS OF THE UNION OF SOVIET SOCIALIST REPUBLICS DATED 16 MARCH 1988

I have the honour to transmit herewith the text of a statement by the Ministry of Foreign Affairs of the USSR dated 16 March 1988.

I should be grateful if you would arrange for this statement to be circulated as an official document of the Conference on Disarmament and as a working paper of the Ad hoc Committee on Chemical Weapons.

(Signed) Y. NAZARKIN  
Representative of the USSR  
to the Conference on Disarmament

STATEMENT BY THE MINISTRY OF FOREIGN AFFAIRS OF THE USSR

At the meeting of the Conference on Disarmament on 8 March 1988, a statement by the Group of Non-Aligned and Neutral States (the Group of 21) on the question of prohibiting chemical weapons was made public. It contains an appeal to the participants in the negotiations to intensify them with a view to the conclusion, at the earliest possible date, of a convention on the complete and effective prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction.

This action, taken at a time when the negotiations have entered the most responsible, final stage, is convincing evidence of the broad support throughout the world for the aim of liberating humanity completely from the threat of chemical weapons. It is a source of particular satisfaction that, in its statement, the Group of 21 emphasizes the inadmissibility and danger of protracting the negotiations and the importance of all participants in those negotiations doing their utmost to achieve rapid progress. People in the Soviet Union fully support the position of the non-aligned and neutral countries that all chemical weapons, not some, should be destroyed; that all chemical weapons production facilities, not some, should be destroyed; and that all, not some, production of chemical weapons should be prohibited.

This formulation of the matter in the statement of the Group of 21 is particularly appropriate and timely in that "ideas" have lately been going the rounds in NATO circles about departing from the agreed aim of the universal and complete prohibition of chemical weapons and replacing the drafting of an all-embracing convention on the subject by piecemeal measures to regulate chemical armaments that would allow the development, production and stockpiling of new types of such weapons to continue. Directly linked with such attitudes are the proposals put forward by someone or other in the negotiations that the production of chemical weapons should be left out of the ban in the convention. It is impossible not to see that there is also an altogether definite connection between those "ideas" and the recent start of production of binary chemical weapons in the United States. This arouses legitimate anxiety about the prospects of reaching agreement on chemical disarmament.

The Soviet Union, fully supporting the statement of the Group of 21, confirms its determination to do everything in its power to ensure that a convention on the universal and complete prohibition and destruction of all chemical weapons, without any exceptions whatsoever and under the most effective supervision, becomes a political reality within the shortest possible time. All the prerequisites for the conclusion of such a convention are now met, and procrastination in this matter cannot be justified from either the political or the moral point of view.







FEDERAL REPUBLIC OF GERMANY AND ITALY

Working Paper

The order of destruction of chemical weapons

1. Over the past few years the issue of order of destruction of chemical weapons has been paid a lot of attention in the negotiations on a global ban on chemical weapons. A number of working papers were devoted to this subject. 1/ The issue has also been subject to intensive consultations by the Chairman of the Ad hoc Committee on Chemical Weapons, the result of which is reflected in the Chairman's paper included in Appendix II, pages 92 and 93 of CD/795 of 2 February 1988.

2. As is already stated in the Annex to Article IV, Section IV, paragraph 1 of the rolling text (CD/795, page 41) the elaboration of the order of destruction shall be built on the following considerations:

- 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;
- applicability, irrespective of the actual composition of the stockpiles and the method chosen for the destruction of the chemical weapons.

Among these points, the principle of maintaining undiminished security for all States during the entire destruction stage is of paramount importance. It is the basic yardstick for assessing proposed solutions to the question of the order of destruction of chemical weapons.

Recently, attention has even more focused on the maintenance of undiminished security during the envisaged 10-year destruction phase due to the different sizes of the chemical weapon stocks existing at the start of the 10-year destruction phase.

3. In an effort to meet the concerns expressed with regard to maintaining security during the 10-year destruction phase, also in view of existing disparities in chemical weapon arsenals, the following approach is suggested:

- I. In accordance with Article I, paragraph 1, and Article V, paragraphs 2 and 3 the production of chemical weapons shall cease immediately upon entry into force of the Convention.
- II. In accordance with Article IV, paragraph 8 and Article V, paragraph 10, as well as the relevant parts of the Annexes to these Articles, all chemical weapons storage sites as well as all chemical weapons production facilities shall be subjected to systematic international on-site verification.
- III. For the purpose of destruction, the categorization developed in the Chairman's paper in Appendix II of CD/795 shall apply. Within each of the three categories a States Party shall determine on its own its detailed plans for each annual period of the destruction process.
- IV. In a first phase the States Parties possessing the largest stocks of chemical weapons shall proceed with the destruction of their CW stocks until an agreed level is reached.

For the practical implementation of this basic undertaking the following provisions shall apply:

- for the purpose of the Convention States Parties with large stocks shall be considered to be those States Parties which possess more than [...] tons of chemical weapons agents regardless of whether these agents are in bulk or filled in munitions or other devices;
- the initial reduction period devoted to the reduction of the chemical weapon stocks of the States Parties with large stocks shall comprise [five] years from the entry into force of the Convention;
- the reduction in the existing large stocks shall start not later than one year after the entry into force of the Convention;
- at the end of this [five] year period equal levels with regard to the remaining [...] tons of chemical weapon agents shall be achieved by all States Parties with large stocks;
- without prejudice to the actual start in the reductions the five annual reduction amounts shall be calculated according to the following formula:

$$x = \frac{A_1 - A_2}{5} \frac{2}{}$$

- States Parties with large stocks shall submit during this first phase annual reports on the reduction of their respective stockpiles to the Technical Secretariat.

V. After the "levelling out" of the large stocks at [...] tons at the end of the fifth year after the entry into force of the Convention a review on the results achieved so far and the experiences gained during the first years with the destruction of chemical weapons and its verification will be carried out during a Special Session of the General Conference of the Organization. The Executive Council will make the necessary preparations for this meeting with the help of the Technical Secretariat.

VI. After the levelling-out phase of the largest stockpiles has been concluded the destruction process will enter into its second phase. During this phase which lasts from the end of the fifth year until the end of the tenth year all States Parties possessing chemical weapons, and regardless of the size of the respective chemical weapons stocks, are required to destroy their chemical weapons. The destruction would be carried out in a linear fashion, i.e. the existing stockpile for each CW-possessor State would be subdivided into five equal reduction amounts to be destroyed during the remaining five years of the destruction period. In the process use could be made of the three categories mentioned above under paragraph 3, III. In this way all existing stockpiles shall be eliminated at the end of the tenth year of the destruction process.

#### Notes

- 1/ CD/697 of 20 May 1986;  
CD/CW/WP.162 of 7 April 1987;  
CD/CW/WP.169 of 15 June 1987;  
CD/CW/WP.182 of 15 January 1988.
- 2/ X = annual reduction amount;  
A1 = declared total stock of chemical weapons (Article. IV, para.2);  
A2 = ... tons; (residual stock after initial five years reduction period for large stocks);  
5 = five years in which residual equal levels of stocks are to be reached.







## CANADA

Chemical Weapons Convention: Article VIIIFACTORS INVOLVED IN DETERMINING VERIFICATION INSPECTORATE  
PERSONNEL AND RESOURCE REQUIREMENTS

## INTRODUCTION

Many papers submitted to the Conference on Disarmament have remarked on the need to consider in increasing detail the constitutional, organizational and operational aspects of the International Organization to be established to implement the Convention. The United Kingdom, most recently in CD/769, has pointed to the need to distinguish between the work that should be done by the Ad Hoc Committee and that which could be left to the Preparatory Commission. It also is desirable, even necessary, that as the negotiation enters its concluding phase, the parties to the negotiation develop a greater awareness of the organizational and resource implications of the responsibilities to be entrusted to the International Organization.

The rolling text in its existing language already projects substantial demands upon a notional Technical Secretariat and, within it, upon an International Inspectorate which would be required to perform a range of complex activities for verification purposes. The rolling text as yet remains notably imprecise on the activities of the International Inspectorate, saying only that "the International Inspectorate shall be part of the Technical Secretariat and carry out activities relating to the execution of international verification measures provided for in this Convention". A purpose of this paper is to conduct an initial probe into the quite daunting resource implications, both in terms of personnel and equipment, which underlie the general language of the rolling text. The paper attempts to build upon valuable papers previously submitted by others, e.g., the Netherlands, the United Kingdom, the United States of America and other contributions too numerous to mention.

The aim is to bring into focus the activities that verification provisions as currently set out in CD/782 will require of the International Inspectorate. These provisions will necessitate inter alia that it inspect and monitor stockpiles, chemical weapons destruction facilities, chemical weapons production facilities, and relevant segments of the civilian chemical industry in order to ensure that States Parties are fulfilling their obligations. From these various verification activities is derived an outline

sketch of related resource requirements, particularly the skills and types of personnel needed. This gives a preliminary basis for considering the resources necessary for this vital sub-organ of the Convention.

The resource requirements are impossible to quantify with precision at this stage; one clear implication, however, to emerge from this study is the need for extensive exchanges of relevant information and data among States Parties prior to the Convention's coming into force, as part of the negotiating process or during the Preparatory Commission phase, in order for the necessary combination of equipment and skilled personnel to be assembled and trained, and procedures devised, for effective verification from the start.

## 1.0 STUDY

The body under study is the International Inspectorate that will be responsible for carrying out the verification (and certain other) activities necessitated by the Articles of a Chemical Weapons Convention. CD/782 Appendix I, the current draft text, provides the starting point in that the verification needs of the Convention are indicated in various Articles.

### 1.1 Articles which demand Verification of Compliance CD/782 Appendix I

#### III. Declarations

#### IV. Chemical Weapons

#### V. Chemical Weapons Production Facilities

#### VI. Activities not Prohibited

#### IX. Consultation, Co-operation and Fact-finding.

The activities required of the International Inspectorate can in the main be determined from the inspection-requirements of these Articles. Provisions of Articles of the Convention will require separate verification functions along the lines listed below (challenge inspections may be viewed as a special case and there are no "fact-finding" provisions as yet; hence Article IX is not fully explored):

|                    |                  |
|--------------------|------------------|
| Chemical           | Verification re: |
| Weapons Stockpiles | 1 Declarations   |
| Articles III, IV   | 2 Storage        |
|                    | 3 Destruction    |
|                    | 4 Transfers      |
|                    | (5 Diversion)    |

|                 |                                   |
|-----------------|-----------------------------------|
| CW Production   | Verification re:                  |
| Facilities      | 1 Declarations                    |
| Articles III, V | 2 Cessation of Production/Closure |
|                 | 3 Destruction/Dismantling         |
|                 | 4 Temporary Conversion            |
|                 | 5 Transfers                       |
|                 | (6 Reconstruction)                |

| Activities       | Verification re:                       |
|------------------|--|
| not Prohibited   | 1 Declarations                         |
| Articles III, VI | 2 Research and Development             |
|                  | 3 Permitted (Small-scale) Production   |
|                  | 4 Non-production (Civilian Production) |
|                  | 5 Transfers                            |

Various methods involved in verification, apart from National Technical Means, may be grouped under four main types:

- (1) Data Reporting
- (2) Verification by Inspection
- (3) Verification with Use of Instruments
- (4) Literature Analysis

### 1.2 Activities and Skills

The following sections, 1.2.1 and 1.2.2, list, in summary, the Inspectorate activities and skills required to implement and verify the CW Convention. The skills list closely parallels the activities list.

#### 1.2.1 Activities

1. Data Collecting and Reporting
2. Performing Data Checks/Analyses
3. Conducting General Examinations of Facilities or Operations.
4. Conducting Interviews
5. Developing and Transmitting Questionnaires
6. Performing Material (Energy) Balances
7. Advising
8. Planning/Designing
9. Counting Items
10. Weighing Items
11. Obtaining Samples
12. Analysing Samples
13. Installing/Removing Instruments
14. Calibrating Instruments
15. Checking/Testing Instruments
16. Recording Readings
17. Monitoring Camera or Instrument Signals
18. Servicing Instruments
19. Supervising (State or Facility Personnel)
20. Inspecting at States Parties' Invitation
21. Analysing Relevant Literature.

#### 1.2.2. Required Skills

This section relates the required Inspectorate skills to the specific activities listed in section 1.2.1. Each activity is listed in turn, as in section 1.2.1, and each is followed by a description of the relevant skills required. In some cases, where an activity entails different skills for different aspects, activities are elaborated, e.g., see point 2 "Performing Data Checks/Analyses".

1. Data Collecting and Reporting: Organizational and report-writing skills.
2. Performing Data Checks/Analyses (there are several aspects of this function, each with the skills noted):

To check Reports Against Plant Records: familiarity with the processes carried out in the plant; awareness of possibilities of diversion; ability to check safety records; knowledge of instruments and equipment.

To Verify Facility Status: ability to conduct a check against previous records for anomalies.

To Verify a Process Description: familiarity with process equipment, control and safety features in industry; awareness of possibilities of diversion within the process.

To Verify Chemicals (i.e., to verify reported movement and/or status):

- With respect to transfers/Imports/Exports: mathematician for material balance; see also "Plans" below.
- With Respect to Destruction/Production Facilities: ability to compare chemicals and quantities with the process and the purpose of the facility.

To approve plans:

- For Verification Systems: awareness of possible methods of diversion; familiarity with the processes in the case of destruction or production facilities; knowledge of instrumentation and equipment.
- For Storage Facilities: familiarity with the problems of storage of hazardous substances.
- For Destruction and Production Facilities: see "Process Description" above.
- For Transfers: awareness of restrictions to transfers; familiarity with the handling and transport of hazardous substances.

To Verify Utilities Requirements: knowledge of utilities requirements for various industries and processes.

To Verify Financial Reports: knowledge of costs of raw materials, production and products.

3. Conducting General Examinations of the Facilities or Operations: either a technical background as in 2 (see "Process Description") for on-site activities or technical and/or security background for monitoring duties; familiarity with safety precautions in dealing with hazardous chemicals.

4. Conducting Interviews: knowledge of the State language and interpersonal skills.
5. Developing and Transmitting Questionnaires: see 4.
6. Performing Material/Energy Balances: engineer or mathematician.
7. Advising: understanding of technical matters, e.g., process or instrumental design; knowledge of existing plans; awareness of possible methods of diversion and verification requirements.
8. Planning and Designing:
  - Facilities: skills as in 2 (see "Process Description") with a knowledge of optimization and cost engineering; experience in design of relevant facilities, e.g., production, destruction, or storage facilities.
  - Verification Systems: as in 2 (see "Process Description"); familiarity with computer design engineering and with instrumentation.
- 9 & 10 Counting/Weighing: analytical and mathematical skills.
- 11 & 12 Sampling: need appropriate sampling (and analytical) techniques for chemical, toxicological and medical sampling; knowledge of the hazards and necessary safety precautions involved with each class of chemicals.
- 13, 14 & 15 Installing, Calibrating, and Checking/Testing Instruments: skills of an electronics or computers technician.
- 16 & 17 Recording Readings from and Monitoring with Instruments: general knowledge of instrumentation and signal processing; familiarity with the system or process being monitored; knowledge of possible methods of diversion.
18. Servicing Instruments: technician with instrument or computer skills.
19. Supervising: good management skills; knowledge of all aspects of verification technology, inspection techniques and problems related to diversion.
20. Inspecting at States Parties' Invitation: any of those skills listed above depending upon the precise situation.
21. Analysing Relevant Literature:
  - To Aid in Compiling and Updating Chemical Lists: organizational skills and knowledge of chemistry and toxicology.
  - To Aid in Verifying Non-compliance Resulting from Clandestine Activities (e.g., by analysing trade records or reports): organizational skills and knowledge of CW chemicals, processes and equipment.

## 2.0 SKILLS, PERSONNEL AND RESOURCES REQUIRED

CD/387 and, to a greater extent, CD/445, present some estimates of the resources required by a Technical Secretariat in terms of personnel for inspections. Fixing the resource requirements in any greater detail is not possible at this stage. It is appropriate to re-state that the skills, personnel and resources needed for the Inspectorate will depend on its actual responsibilities, and its size will be related to the extent of its duties. The following factors, however, should determine the size of the Inspectorate, the size of technical support staff, and the associated costs.

### 2.1 Skills and Personnel

Personnel requirements can be derived from the detailed listing of skills developed in section 1.2.2. In the first place, engineers of various kinds, including chemical engineers, industrial engineers, and process engineers, will be necessary to advise on technical matters, to design verification methods, to check technical plans or reports, to inspect facilities or operations, and to train inspectors.

Second, to advise on technical matters, to aid in designing/supervising sampling systems and other verification methods, to conduct interviews, to compile and update chemical lists, and to check trade records or reports, the Inspectorate will need analytical and other chemists, toxicologists, industrial hygienists, and materials accounting specialists.

Third, technical support staff (as distinct from inspectors) should include interpreters, data specialists, computer and data communications engineers and technicians, electronics technicians, other instrumentation specialists, and laboratory technicians. An administrative group should include lawyers, accountants and secretaries (these might be in a separate section of the Technical Secretariat).

The first group (engineers), and the analytical chemists, toxicologists and industrial hygienists must either have extensive experience with the chemical industry, or undergo training in the speciality area in which they are to work.

An additional group that will have to be set up within the Inspectorate is a Quality Assurance Unit (QAU) of much larger size than the QAUs required in those countries that use "Good Laboratory Practice Regulations" (GLPs). That QAU could serve as an examination/certification board, and as an internal quality control monitor. Standard Operating Procedures will have to be written, and tailored and approved by the QAU, for many of the tasks to be performed.

It has also been suggested that a Scientific Council be created. In examining this proposal, consideration could be given to whether the responsibilities of such a body, should there be agreement on its establishment, might usefully include the regular review of the scientific criteria and methods employed by departments within the Inspectorate. This would provide yet another dimension of quality assurance, including maintenance of all activities at the current state-of-the-art.

### 2.1.1 Size of the Inspectorate

The number of inspectors required depends on:

- the number of facilities and operations to be inspected.

The greater the number of facilities to be inspected, the greater is the need for proportionately higher numbers of inspectors. The same holds true for transfers operations.

- the size and complexity of the facility or area requiring inspection.

"Size" refers to the physical size of an area and not to the process load of a facility. The greater the size or the more complex the facility and/or its processes, the greater will be the need for higher numbers of inspectors.

- the proximity of areas requiring inspection.

If such areas are close together and can be inspected jointly or in a single visit, then the burden in terms of numbers of inspectors is reduced.

- the duration of operations.

In the case of destruction operations, longer time-frames for operations generally necessitate more frequent inspections when inspections are random or periodic and necessitate more inspectors in any event. For transfer operations, longer time-frames for operations typically indicate that points of transfer are distant, that the transfer route is a slow one, or that the load to be transferred is large. Only in the last case are inspector numbers noticeably affected.

- the frequency of inspection.

If the frequency is made to be higher, then resource requirements become larger as well.

The choice of frequency of inspection is dependent, amongst other things, on:

- the duration of an operation;
- decisions to conduct familiarization visits;
- the type of facility or operation, i.e., classification according to chemicals;
- the level of risk of diversion within a facility or operation;

- the type of inspection or verification, i.e., the specific operations to be carried out.

The greater the number of duties assigned to the Inspectorate or the more complicated or time-consuming those activities are, the greater will be the required number of inspectors.

The choice of inspection type is dependent in turn on:

- the type of facility or operation, i.e., classification according to chemicals;
  - the level of risk of diversion within a facility or operation;
  - the applicability of employing instrumentation. Note that instruments may not be feasible where operations are of short duration;
  - obtaining a balance between the degree of effectiveness of the verification method and the degree of intrusiveness which results;
  - decisions to conduct inspections in stages of increasing intrusiveness and the likelihood that an inspection will be necessitated beyond a given stage for a given facility;
  - co-operation between the State and the Inspectorate at the levels of planning, advising, designing equipment, inspecting and compiling lists.
- the percentage of time spent travelling, report-writing, etc.

The greater the relative percentage of time devoted to inspecting, the smaller will be the size of the Inspectorate.

- training requirements.

A sub-organ will be responsible for training new personnel. (Personnel in charge of training programmes will be qualified inspectors.) The size of this sub-organ will be dependent on the details of training programmes, including their durations and frequencies. If training programmes are long, "back-up inspectors" may be incorporated into the Inspectorate in anticipation of future turnovers.

- requirements for challenge inspections.

These requirements cannot be readily determined before a Convention is in force. Expectations are that the effect of challenge inspections on the resources required will be relatively small. Certainly, if a decision is made to set up a permanent sub-organ within the Inspectorate for purposes of challenge inspections, then the impact on resources can be better estimated.

- cost considerations.

Budgetary constraints may have an impact on the operational capabilities of the Inspectorate.

### 2.1.2 Size of a Technical Support Staff

The size of technical support staff depends on:

- the form of data management chosen.

Data management may be of a very simple nature, involving a large amount of paperwork; or it may be of a highly technical nature, involving electrical, optical, or advanced (satellite) communication links from various sites to one or more designated centres; or it may be of an intermediate nature, e.g., involving data storage at various sites and subsequent transfer of these data. An appropriate balance between the numbers of highly-skilled technicians and the numbers of less-skilled members of the technical support staff will be dependent on the form of data management chosen.

- the types and amounts of instrumentation or equipment employed in the verification methods.

Any Inspectorate equipment or instrumentation should be installed, calibrated, checked, serviced, and removed by competent Inspectorate personnel. Technical support staff may also be required to assist in checking important facility equipment. The resource requirements will increase with increased complexity and use of instrumentation or equipment.

- the frequency of challenge inspections.
- the frequency of false alarms.

False alarms may occur with power failures or general equipment failure. Frequent false alarms may be reduced by utilizing back-up power generators and equipment or instrumentation.

- the use of laboratories for analysis of samples.

Laboratory technicians may be required if it is decided to set up one or more central laboratories for sample analyses.

- the degree of Inspectorate involvement in planning and designing facilities/equipment and/or verification schemes.

Details of equipment and instrumentation design, as well as details on their incorporation into plans, would require the involvement of technical support personnel.

### 2.1.3 Associated Costs

These will depend on:

- the number of inspectors employed (see 2.1.1).

This number will be in a state of general flux, dependent, inter alia, on the numbers of personnel in training at any given time. More importantly, it is generally expected to be at its highest value in the period immediately following the Convention's coming into force; as destruction operations are completed, the number should drop and eventually (after ten years) level off.

- the types of inspectors employed.

For example, if inspections are on a non-continuous basis, then personnel with broad expertise in the chemical industry will be needed; this would increase average salary levels within the Inspectorate, although it would probably decrease training costs.

- the size of the technical support staff (see 2.1.2).

Again, this will be greatest in the period following the Convention's coming into force, when the design of verification schemes and the installation of new equipment are expected to be key activities. As destruction operations are completed, staff numbers may decrease.

- the amounts and types of Inspectorate instrumentation and equipment required for verification purposes.

Instrumentation not under continuous control by the Inspectorate should be tamper-resistant, reliable and long-lived. To decrease the chances of false alarms, back-up generators and back-up equipment and instrumentation may be installed. Equipment for the purposes of investigation of allegations of use would also be needed, e.g., perhaps a portable "package" consisting of some vehicle loaded with appropriate equipment.

- the form of data management utilized.

The most efficient forms of data management are also the most costly, both in terms of capital costs and equipment upkeep, since they generally involve sophisticated computer equipment and communication links. The operating advantages of modern systems, which are capable of processing large amounts of information both rapidly and securely, may offset cost disadvantages. The need to provide for security of data will involve some additional costs.

- the size of the administrative support.

This is expected to be proportionately related to the size of the Inspectorate.

- the locations of Inspectorate main offices.

These should be located centrally in relation to the sites of inspection. Regional offices may also be desirable.

- travel requirements.

Travel expenses may be minimized by an appropriate choice of office locations. The choice of inspection frequency obviously affects travel requirements.

- challenge inspection costs.

These costs may include the hiring of special personnel and/or laboratories in cases of allegations of use. The added resource requirements necessitated by the inspection of allegations of use will, it is to be hoped, be relatively small.

## 2.2 Sources of Highly Skilled Personnel

The initial volume of work for the Inspectorate, especially the QAU, is probably more readily underestimated than estimated, and serious thought will have to be given to three aspects:

(1) What will be the source of the initial cadre of experts, inspectors and members of the QAU?

(2) What are the attractions for a highly qualified, well established person, to enter into a career with the Inspectorate, and to continue to be interested in doing what may amount to rather repetitive, boring and frustrating work?

(3) How does one ensure that the Inspectorate, and its key personnel, maintain a high level of scientific credibility and integrity?

Both the group of team-leading inspectors and the QAU will require highly skilled and experienced personnel. Currently, such persons are largely to be found in the chemical industry or in "leading-edge" research establishments. Ways and means have to be found to attract and retain the services of such persons. A main objective will be the eventual creation of an adequate career framework for a cadre of international civil servants. For training of young and aspiring prospective personnel, the Inspectorate could obtain the co-operation of universities and research institutions by arranging for training and fellowship positions. It may also be necessary in the initial stages to obtain the services of personnel with the required skills on a temporary basis by way of agreements between the Inspectorate, the primary employer, and the employee, providing for temporary leaves of absence with appropriate compensation. Industry and research institutions could profit from the enhanced reputation and visibility, and from the considerable knowledge gained by the specialists, once they return to the home institution. Such an approach, however, could have potentially serious implications in terms of adequately ensuring the confidentiality of information and data. This aspect would require careful scrutiny.

### 2.2.1 Maintenance of Scientific Credibility and Professional Status

Many of the key professionals required will have to maintain their research careers, for instance by publication of scientific papers. The regular work of the Inspectorate may provide opportunities for such activities so necessary to retain able specialists.

While it is recognized that the Inspectorate's primary purpose will be verification, it could also perform secondary activities that could advance and exploit skills similar to those needed for it, provided that they did not interfere with this purpose. For example, the organization might, if requested, assist States Parties in various ways, e.g., in reviewing safety and environmental protection aspects of their chemical industry activities. By performing such secondary roles the Inspectorate would acquire useful experience; foster positive attitudes toward it on the part of Governments and industry; and have the chance continually to test the functional/organizational ability of all associated laboratories, scientists, and supporting structures.





11 April 1988

Original: ENGLISH

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LETTER DATED 7 APRIL 1988 FROM THE DEPUTY HEAD OF THE  
DELEGATION OF THE FEDERAL REPUBLIC OF GERMANY ADDRESSED  
TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT  
TRANSMITTING A NOTE FROM THE GOVERNMENT OF THE FEDERAL  
REPUBLIC OF GERMANY EVOKED BY THE RECENT REPORTS ABOUT  
THE USE OF CHEMICAL WEAPONS IN THE WAR BETWEEN IRAQ  
AND IRAN

I have the honour to transmit to you herewith a note from the Government of the Federal Republic of Germany evoked by the recent reports about the use of chemical weapons in the war between Iraq and Iran and containing an appeal to the nations participating in the Conference on Disarmament to speed up progress towards the conclusion of a global convention on chemical weapons.

I should be grateful if you would circulate the attached note as an official document of the Conference on Disarmament.

Rüdiqer Lüdeking (signed)  
Deputy Head of Delegation

Note verbale

The Government of the Federal Republic of Germany presents its compliments to the States participating in the Conference on Disarmament in Geneva and wishes to inform them of its deep concern at the recent reports about the use of chemical weapons in the war between Iraq and Iran. They illustrate to mankind the horrific effects of such means of mass destruction. All over the globe people have been shocked by this blatant violation of international law.

The use of chemical warfare agents is a clear breach of the Geneva Protocol of 1925 banning the use of chemical weapons. It violates the legal conscience of the whole community of nations.

The suffering of the victims of chemical warfare obliges all governments to take speedy action. The complete elimination of this ghastly category of weapons can only be achieved by means of a convention which places a global ban on chemical weapons.

The Government of the Federal Republic of Germany therefore appeals to all States participating in the Geneva Conference on Disarmament to give the highest priority to a global ban on chemical weapons. The aim must be to work out by consensus, on the basis of the Conference's careful preparations, practical solutions for the remaining problems in the draft convention. The Government of the Federal Republic of Germany is convinced that, even as regards the complex verification issue, it is possible to achieve through joint efforts an agreement that will take into account the security requirements of all nations. Positive developments that have emerged from the negotiations recently should now be resolutely used to achieve further progress. In the remaining weeks of the spring session, the work on the draft convention could still be considerably advanced.

The foundations have already been laid for agreed solutions to the central issues on on-challenge inspections and the verification of non-production. The Conference also has at its disposal well-developed concepts with regard to the convention régime. Initial steps towards greater transparency in the chemical weapons sector, which should be followed by others, are conducive to the course of the negotiations.

The recent use of chemical weapons in the war between Iraq and Iran is an urgent warning to the participants in the Geneva Conference on Disarmament to meet their responsibility in the negotiations. All nations are called upon to intensify their efforts in Geneva and to widen the basic consensus but not to jeopardize it by introducing new concepts.

Chemical weapons should no longer have a place in any country's arsenal. All nations have a great responsibility to work towards the conclusion of a convention now, not at some time in the future.

Geneva, 7 April 1988

To the  
States participating in the  
Conference on Disarmament  
in Geneva





LETTER DATED 11 APRIL 1988 FROM THE PERMANENT REPRESENTATIVE  
OF THE ISLAMIC REPUBLIC OF IRAN ADDRESSED TO THE PRESIDENT  
OF THE CONFERENCE ON DISARMAMENT

I have the honour to transmit, herewith, the list of occasions of use of chemical weapons by the Iraqi régime against the Islamic Republic of Iran from January 1981 to March 1988.

I would request that you make the necessary arrangements for this text to be issued as an official document of the Conference on Disarmament under Item IV of the agenda.

(Signed)

Sirous Nasseri  
Ambassador  
Permanent Representative

A CHART OF CHEMICAL ATTACKS BY THE IRAQI REGIME  
JANUARY 1981 - MARCH 1988

| Place                  | Date          | Means        | No. of victims | Substance        |
|------------------------|---------------|--------------|----------------|------------------|
| Halaleh and Neykharzar | 13 Jan. 1981  | Artillery    | 10             | -                |
| Howeyzeh               | 21 Mar 1981   | Mortar-shell | 1              | Nerve gas        |
| Allah Akbar Heights    | 3 June 1981   | Artillery    | -              | -                |
| Pole Naderi            | 22 June 1981  | Mortar-shell | -              | -                |
| Khoramshahr            | 20 Dec. 1981  | Artillery    | -              | -                |
| Saaveji                | 16 Oct. 1982  | Artillery    | -              | -                |
| Abadan                 | 22 Oct. 1982  | Artillery    | -              | -                |
| Height 175             | 23 Oct. 1982  | Mortar-shell | -              | Nitrogen mustard |
| Musiyan                | 27 Oct. 1982  | Artillery    | 20             | -                |
| Height 175             | 16 Nov. 1982  | Artillery    | 9              | Nerve gas        |
| Tangab                 | 19 Dec. 1982  | Artillery    | -              | -                |
| Shalamche (North)      | 20 Jan. 1983  | Mortar-shell | -              | -                |
| Gardane Bayveh         | 25 Jan. 1983  | Artillery    | 5              | -                |
| Kordestan              | 25 Jan. 1983  | Artillery    | -              | -                |
| Sharhani               | 8 Feb. 1983   | Artillery    | -              | -                |
| Shalamche              | 24 Feb. 1983  | Artillery    | -              | -                |
| Fakkeh                 | 23 Mar. 1983  | Mortar-shell | -              | -                |
| Base of Moslem Neghabi | 26 Mar. 1983  | Mortar-shell | -              | -                |
| Sumaar                 | 29 Mar. 1983  | Artillery    | 4              | -                |
| Sumaar                 | 7 Apr. 1983   | Mortar-shell | -              | -                |
| Around Doyraj Lake     | 11 June 1983  | Artillery    | -              | -                |
| Tamr Chin              | 8 Aug. 1983   | Aircraft     | -              | Nausea gas       |
| Shiveh Rash            | 8 Aug. 1983   | Aircraft     | 24             | Blistering gas   |
| Haaaj Omraan           | 8 Aug. 1983   | Aircraft     | -              | Blistering gas   |
| Piranshahr             | 9 Aug. 1983   | Aircraft     | 10             | -                |
| Tamr Chin              | 9 Aug. 1983   | Aircraft     | 30             | Mustard gas      |
| Piranshahr             | 9 Aug. 1983   | Aircraft     | 120            | -                |
| Ghamtareh Heights      | 14 Aug. 1983  | Artillery    | 203            | Blistering gas   |
| Savouji                | 15 Aug. 1983  | Artillery    | -              | -                |
| Sardasht               | 29 Aug. 1983  | Artillery    | -              | -                |
| Sumaar                 | 2 Sept. 1983  | Artillery    | -              | -                |
| Bazi Deraaz Heights    | 24 Sept. 1983 | Artillery    | 4              | -                |
| Kharratha              | 17 Oct. 1983  | Artillery    | -              | -                |
| Marivan                | 21 Oct. 1983  | Mortar-shell | -              | -                |
| Seyyedlou Village      | 21 Oct. 1983  | Artillery    | -              | -                |
| Sar Doush              | 21 Oct. 1983  | Artillery    | 3              | -                |
| Sar Doush              | 22 Oct. 1983  | Artillery    | -              | -                |
| Bademjan Village       | 23 Oct. 1983  | Aircraft     | 30             | Blistering gas   |
| Baaneh                 | 25 Oct. 1983  | Aircraft     | 8              | -                |
| Marivan                | 26 Oct. 1983  | Artillery    | 16             | -                |
| Bayenjan Village       | 28 Oct. 1983  | Artillery    | -              | Blistering gas   |
| Garmaab                | 7 Nov. 1983   | Aircraft     | 40             | -                |
| Panjvin                | 7 Nov. 1983   | Aircraft     | 77             | Nerve gas        |
| Paaveh                 | 25 Dec. 1983  | Artillery    | -              | -                |
| Eskeleh 12 of Abaan    | 29 Dec. 1983  | Mortar-shell | -              | -                |
| Hoseiniyeh             | 5 Jan. 1984   | Mortar-shell | 1              | -                |
| Arvand Roud            | 14 Feb. 1984  | Mortar-shell | -              | -                |
| Alaziz                 | 26 Feb. 1984  | Mortar-shell | -              | -                |

| Place                                   | Date         | Means     | No. of victims | Substance                    |
|---|--------------|-----------|----------------|------------------------------|
| Shatte Ali                              | 26 Feb. 1984 | Aircraft  | -              | Mustard gas                  |
| Hour Alhoveyzeh                         | 27 Feb. 1984 | Aircraft  | 1 100          | Mustard gas                  |
| Talayeh                                 | 1 Mar. 1984  | Artillery | -              | -                            |
| Talayeh                                 | 3 Mar. 1984  | Artillery | -              | -                            |
| Majnoun                                 | 7 Mar 1984   | Aircraft  | -              | -                            |
| Majnoun                                 | 10 Mar. 1984 | Aircraft  | 543            | Mustard gas                  |
| Majnoun                                 | 11 Mar. 1984 | Aircraft  | 20             | Mustard gas                  |
| Albeyzaa                                | 14 Mar. 1984 | Aircraft  | 153            | -                            |
| Majnoun                                 | 14 Mar. 1984 | Aircraft  | -              | -                            |
| Hoseiniyeh                              | 15 Mar. 1984 | Artillery | 50             | -                            |
| Jofeir                                  | 18 Mar. 1984 | Aircraft  | -              | -                            |
| Albeyzaa                                | 18 Mar. 1984 | Aircraft  | -              | Phosphoric gas               |
| Hour Al Hovayzeh                        | 21 Mar. 1984 | Aircraft  | 370            | Nerve gas                    |
| Majnoun                                 | 9 Aug. 1984  | -         | -              | -                            |
| Barim Aabaadan                          | 10 Aug. 1984 | -         | -              | -                            |
| Nosoud                                  | 24 Oct. 1984 | Artillery | -              | Damper & tearing gases       |
| Dajle Shargh                            | 13 Mar. 1985 | -         | 200            | Damper gas                   |
| South West of North Island              | 13 Mar. 1985 | Aircraft  | 324            | Nerve & blood gases          |
| West of North Island                    | 13 Mar. 1985 | Aircraft  | -              | Nerve gas (G)                |
| East of North Island (Pole Khaibar)     | 13 Mar. 1985 | Aircraft  | -              | Nerve gas                    |
| West of North Island                    | 13 Mar. 1985 | Aircraft  | -              | Nerve & blood gases          |
| Mogheiyate Kosar                        | 13 Mar. 1985 | Aircraft  | -              | Not known                    |
| South Island                            | 13 Mar. 1985 | Aircraft  | -              | Nerve & blood gases          |
| Pad Panj                                | 13 Mar. 1985 | Aircraft  | -              | Nerve gas                    |
| South West of the Island                | 15 Mar. 1985 | Aircraft  | -              | Nerve gas                    |
| West of North Island                    | 15 Mar. 1985 | Aircraft  | -              | Nerve gas                    |
| Road between Kiyand Dasht and Shate Ali | 15 Mar. 1985 | Aircraft  | -              | Blistering gas               |
| Eskeleh and Shahid Hemmat Road          | 15 Mar. 1985 | Aircraft  | -              | Nerve gas                    |
| Eskeleh Shomali Shate Ali               | 15 Mar. 1985 | Aircraft  | 738            | Blistering gas               |
| Se Rahe Fath                            | 15 Mar. 1985 | Artillery | -              | Nerve & blistering gases     |
| Maghare 21 Emam Reza                    | 15 Mar. 1985 | Aircraft  | -              | Blood gas                    |
| Ae Rahr Fath                            | 15 Mar. 1985 | Artillery | -              | Blistering gas               |
| Pole Khaibar                            | 15 Mar. 1985 | Aircraft  | 17             | Blistering & nerve gases     |
| Avvale Jazire                           | 15 Mar. 1985 | Aircraft  | -              | Blistering & nerve gases     |
| Mogheiyate Shahid Alavi                 | 15 Mar. 1985 | Aircraft  | 10             | Nerve gas                    |
| Ae Rahe Jazireh                         | 15 Mar. 1985 | Aircraft  | 30             | Nerve gas                    |
| Ghamar Bani Hashem Emergency Center     | 15 Mar. 1985 | Aircraft  | 112            | Nerve, mustard & blood gases |

| Place                         | Date         | Means        | No. of victims | Substance                |
|-------------------------------|--------------|--------------|----------------|--------------------------|
| Se Rahe Khaibar               | 15 Mar. 1985 | Aircraft     | 4              | Nerve gas                |
| Pole Ghadime Khaibar          | 15 Mar. 1985 | Artillery    | -              | Damper gas               |
| Pole Khaibar                  | 15 Mar. 1985 | Aircraft     | -              | Blistering gas           |
| Pole 17 Jazireh               | 15 Mar. 1985 | Aircraft     | -              | Nerve gas                |
| Majnoun Island                | 16 Mar. 1985 | Aircraft     | 70             | Blistering gas           |
| South of Majnoun Island       | 17 Mar. 1985 | Artillery    | -              | Nerve & blistering gases |
| Lashgare 12 Jazireh           | 17 Mar. 1985 | Aircraft     | -              | Nerve gas                |
| South Western Side of Majnoun | 18 Mar. 1985 | Aircraft     | -              | Blistering gas           |
| South of Majnoun Island       | 18 Mar. 1985 | Aircraft     | 111            | Blistering gas           |
| Ashoura Emergency Center      | 18 Mar. 1985 | Aircraft     | -              | Blistering gas           |
| Abaadan and Fow               | 24 Mar. 1985 | -            | -              | -                        |
| Jofeir                        | 8 Apr. 1985  | Aircraft     | 5              | Nerve gas                |
| Jofeir                        | 8 Apr. 1985  | Aircraft     | 5              | Nerve gas                |
| Jofeir                        | 8 Apr. 1985  | Aircraft     | 4              | Nerve gas                |
| Jofeir                        | 8 Apr. 1985  | Artillery    | 29             | Nerve gas                |
| Hamid Base                    | 8 Apr. 1985  | Aircraft     | 1 110          | Blistering gas           |
| Hamid Base                    | 8 Apr. 1985  | Artillery    | -              | Nerve gas                |
| Majnoun Islands               | 9 Apr. 1985  | Aircraft     | 2              | Blood gas                |
| Jofeir                        | 9 Apr. 1985  | Artillery    | 104            | Blood gas                |
| Majnoun Islands               | 9 Apr. 1985  | Artillery    | 5              | Blistering gas           |
| Jofeir                        | 9 Apr. 1985  | Aircraft     | 199            | Damper gas               |
| Jofeir                        | 9 Apr. 1985  | Artillery    | 151            | Damper gas               |
| Majnoun Islands               | 10 Apr. 1985 | Aircraft     | 12             | Nerve gas                |
| Majnoun Islands               | 10 Apr. 1985 | Aircraft     | 1              | Nerve gas                |
| South Front                   | 12 Apr. 1985 | -            | -              | -                        |
| Jofeir                        | 14 Apr. 1985 | Aircraft     | 6              | Nerve gas                |
| Khoramshahr                   | 17 Apr. 1985 | Aircraft     | 2              | Nerve gas                |
| Abaadan                       | 17 Apr. 1985 | Artillery    | 3              | Nerve gas                |
| Ain-E-Khosh                   | 18 Apr. 1985 | Mortar-shell | 5              | Nerve gas                |
| Khoramshahr                   | 2 Nov. 1985  | Artillery    | 8              | -                        |
| Abaadan                       | 26 Jan. 1986 | Aircraft     | 11             | Mustard gas              |
| Abaadan                       | 29 Jan. 1986 | Aircraft     | -              | -                        |
| Ilat                          | 30 Jan. 1986 | Artillery    | -              | -                        |
| Fow-Road-Bassreh              | 13 Feb. 1986 | Aircraft     | 8 500          | Mustard, nerve gases     |
| Abaadan                       | 13 Feb. 1986 | Artillery    | 20             | Mustard gas              |
| Abaadan                       | 13 Feb. 1986 | Aircraft     | 11             | Mustard gas              |
| Jofeir                        | 15 Feb. 1986 | Aircraft     | 20             | Blistering gas           |
| Jofeir                        | 15 Feb. 1986 | Aircraft     | 5              | Nerve gas                |
| Abaadan                       | 16 Feb. 1986 | Aircraft     | -              | Mustard gas              |
| Khosroaabaad                  | 16 Feb. 1986 | Aircraft     | 6              | Blistering gas           |
| Abaadan                       | 17 Feb. 1986 | Aircraft     | 27             | Mustard gas              |
| Khosroaabaad                  | 18 Feb. 1986 | Aircraft     | 17             | Blistering gas           |
| Abaadan                       | 20 Feb. 1986 | Aircraft     | 5              | Nerve gas                |
| Ain-E-Khoch                   | 20 Feb. 1986 | Artillery    | 3              | Blood gas                |
| Fow                           | 27 Feb. 1986 | Aircraft     | 23             | -                        |
| Baaneh                        | 2 Mar. 1986  | Aircraft     | -              | -                        |
| Sardasht (Two villages)       | 2 Mar. 1986  | Aircraft     | -              | -                        |

| Place                           | Date         | Means     | No. of victims | Substance                            |
|---------------------------------|--------------|-----------|----------------|--------------------------------------|
| Valfajr Operational Theatre     | 23 Mar. 1986 | -         | -              | Mustard gas                          |
| Valfajr Operational Theatre     | 21 Apr. 1986 | -         | -              | -                                    |
| Valfajr Operational Theatre     | 22 Apr. 1986 | -         | -              | -                                    |
| Mahrn-Amiraabad                 | 24 Apr. 1986 | Aircraft  | 150            | Blistering & nerve gases             |
| Mahrn-Salehaabad                | 25 May 1986  | Aircraft  | 600            | -                                    |
| Mahrn-Salehaabad                | 25 May 1986  | Aircraft  | 150            | Blistering & nerve gases             |
| Karbalaye 2 Operational Theatre | 4 Sept. 1986 | Artillery | 8              | -                                    |
| Bomoud Cheikh Salah             | 8 Sept. 1986 | Artillery | 125            | Mustard & nerve gases                |
| West War Front                  | 24 Dec. 1986 | Aircraft  | -              | -                                    |
| Khoramshahr                     | 25 Dec. 1986 | Aircraft  | -              | Mustard, blood, nerve & damper gases |
| Khoramshahr-Shalamcheh          | 25 Dec. 1986 | Artillery | -              | Mustard, blood, nerve & damper gases |
| Khoramshahr-Shalamcheh          | 25 Dec. 1986 | Aircraft  | 1 160          | Mustard, blood, nerve & damper gases |
| East Bank of Arvand Roud        | 26 Dec. 1986 | Artillery | -              | -                                    |
| Abaadan-Khormashahr             | 26 Dec. 1986 | Artillery | -              | Mustard & blood gases                |
| Abaadan-Khormashahr             | 26 Dec. 1986 | Aircraft  | -              | Mustard & blood gases                |
| Abaadan down to Minu Sq.        | 29 Dec. 1986 | Aircraft  | -              | Mustard & nerve gases                |
| Abaadan down to Minu Sq.        | 29 Dec. 1986 | Artillery | -              | Mustard & nerve gases                |
| West Front Infirmary            | 31 Dec. 1986 | -         | 300            | Mustard gas                          |
| Soumar (4 km away)              | 31 Dec. 1986 | Aircraft  | -              | Mustard gas                          |
| Soumar                          | 31 Dec. 1986 | Aircraft  | -              | Mustard gas                          |
| Minu Island                     | 2 Jan. 1987  | Artillery | -              | -                                    |
| Minu Island                     | 2 Jan. 1987  | Artillery | -              | Mustard gas                          |
| Soumar-Kamjan                   | 7 Jan. 1987  | Aircraft  | 200            | -                                    |
| Right side of site              | 8 Jan. 1987  | Aircraft  | -              | Mustard & nerve gas                  |
| Khoramshahr Road                | 10 Jan. 1987 | Aircraft  | 3 000          | Mustard gas                          |
| Khoramshahr Road                | 10 Jan. 1987 | Artillery | -              | Mustard gas                          |
| Khoramshahr (North West)        | 11 Jan. 1987 | Artillery | -              | Mustard & blood gases                |
| Khoramshahr (North West)        | 11 Jan. 1987 | Aircraft  | -              | Mustard & blood gases                |

| Place  | Date         | Means        | No. of victims | Substance                      |
|--|--------------|--------------|----------------|--------------------------------|
| Around Martyr Dezfully Road                    | 12 Jan. 1987 | Aircraft     | -              | Mustard & nerve gases          |
| Around Martyr Dezfully Road                    | 12 Jan. 1987 | Artillery    | -              | Mustard & nerve gases          |
| Kutallazin, East of Basreh                     | 13 Jan. 1987 | Aircraft     | -              | -                              |
| Down of Mearaj Road                            | 13 Jan. 1987 | Artillery    | -              | Mustard & blood gases          |
| Down of Mearaj Road                            | 13 Jan. 1987 | Aircraft     | -              | Mustard & blood gases          |
| Abaadan, Milk Factory                          | 14 Jan. 1987 | -            | 4              | Nerve gas                      |
| Headquarters of South Operations               | 14 Jan. 1987 | -            | 38             | -                              |
| West of Shalamcheh                             | 14 Jan. 1987 | Aircraft     | -              | Mustard & blood gases          |
| West of Shalamcheh                             | 14 Jan. 1987 | Artillery    | -              | Mustard & blood gases          |
| West of Shalamcheh                             | 14 Jan. 1987 | Mortar-shell | -              | Mustard & blood gases          |
| Martyr Amaani Road                             | 15 Jan. 1987 | Artillery    | -              | Mustard gas                    |
| Martyr Amaani Road                             | 15 Jan. 1987 | Aircraft     | -              | Mustard gas                    |
| East of Jaasem River                           | 16 Jan. 1987 | Artillery    | -              | Mustard & blood gases          |
| East of Jaasem River                           | 18 Jan. 1987 | Artillery    | -              | Mustard & blood gases          |
| Abaadan  | 19 Jan. 1987 | -            | -              | -                              |
| Logestic Roads                                 | 21 Jan. 1987 | Artillery    | -              | Mustard & blood gases          |
| Logestic Roads                                 | 21 Jan. 1987 | Aircraft     | -              | Mustard & blood gases          |
| Martyr Ahmad Golzari Road                      | 24 Jan. 1987 | Aircraft     | -              | Mustard & blood gases          |
| Workshop of Military Equipment                 | 25 Jan. 1987 | Mortar-shell | -              | Mustard gas                    |
| Workshop of Military Equipment                 | 25 Jan. 1987 | Aircraft     | -              | Mustard gas                    |
| Along Arvand Rud                               | 27 Jan. 1987 | Artillery    | -              | Mustard gas                    |
| Khoramshahr                                    | 28 Jan. 1987 | Aircraft     | -              | Mustard gas                    |
| Artillery Emplacement No. 5 (NASR 1 Operation) | 29 Jan. 1987 | Artillery    | -              | Mustard, blood, & damper gases |
| Artillery Emplacement No. 5 (NASR 1 Operation) | 29 Jan. 1987 | Mortar-shell | -              | Mustard, blood, & damper gases |
| "Karbala 5" Operational Theatre                | 1 Feb. 1987  | Artillery    | -              | Mustard, blood, & nerve gases  |
| "Karbala 5" Operational Theatre                | 1 Feb. 1987  | Aircraft     | -              | Mustard, blood, & nerve gases  |
| 48 Fath Motor Pool                             | 2 Feb. 1987  | Artillery    | -              | Mustard gas                    |
| "Karbala 5" Operational Theatre                | 6 Feb. 1987  | Aircraft     | 50             | Mustard gas                    |
| Two sides of Khoramshahr Road                  | 6 Feb. 1987  | Aircraft     | -              | Mustard gas                    |

| Place                                   | Date         | Means        | No. of victims | Substance                |
|---|--------------|--------------|----------------|--------------------------|
| South Eastern part of "Majnoun Island"  | 14 Feb. 1987 | Aircraft     | 640            | Nerve & blistering gases |
| Abolfazl Highway                        | 14 Mar. 1987 | Aircraft     | -              | Unknown                  |
| South Western part of "Majnoun Island"  | 14 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| South of Khatam Headquarters            | 14 Mar. 1987 | Aircraft     | -              | Unknown                  |
| Ghamarbanihashem Emergency Center       | 14 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| P.O.W. Camp in Majnoun Island           | 14 Mar. 1987 | Aircraft     | -              | Nerve & damper gases     |
| Ghamarbanihashem Emergency Center       | 14 Mar. 1987 | Aircraft     | 80             | Nerve & blood gases      |
| "Hazraterasoul" Division                | 14 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| South Northern part of "Majnoun Island" | 16 Mar. 1987 | Artillery    | 298            | Nerve gas                |
| North of "Majnoun Island"               | 16 Mar. 1987 | Aircraft     | -              | Blood & blistering gases |
| Khaibar Bridge                          | 16 Mar. 1987 | Artillery    | -              | Damper gas               |
| Serah-E-Fath                            | 16 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| Majoun Island                           | 16 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| Beginning of Khaibar Bridge             | 16 Mar. 1987 | Aircraft     | -              | Blistering gas           |
| P.O.W. Camp in Majnoun Island           | 16 Mar. 1987 | Aircraft     | 50             | Nerve gas                |
| Martyr Rajaai Road in Majoun Island     | 16 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| Rasulalah Emergency Center              | 16 Mar. 1987 | Aircraft     | 10             | Nerve gas                |
| Martyr Rajaai Road                      | 16 Mar. 1987 | Aircraft     | -              | Blistering gas           |
| Crossroads of Cheraghi (Majnoun Island) | 16 Mar. 1987 | Aircraft     | -              | Nerve gas                |
| Around Kosar Headquarters               | 16 Mar. 1987 | Aircraft     | 241            | Blistering gas           |
| Karbala 4 Operational Theatre           | 18 Mar. 1987 | Mortar-shell | 5              | -                        |
| Baaneh                                  | 5 Apr. 1987  | Aircraft     | 10             | -                        |
| Karbala 8 Operational Theatre           | 7 Apr. 1987  | Artillery    | -              | Blistering gas           |
| Karbala 8 Operational Theatre           | 7 Apr. 1987  | Aircraft     | 6              | Mustard gas              |
| Karbala 8 Operational Theatre           | 8 Apr. 1987  | Aircraft     | 7              | Blood & blistering gases |

| Place   | Date         | Means     | No. of victims | Substance   |
|---|--------------|-----------|----------------|-------------|
| Karbala 8 Operational Theatre                               | 9 Apr. 1987  | Artillery | -              | -           |
| Karbala 8 Operational Theatre                               | 10 Apr. 1987 | Artillery | -              | -           |
| Khoramshahr   | 10 Apr. 1987 | -         | 21             | -           |
| Kordish Villages of Iraq                                    | 15 Apr. 1987 | -         | -              | -           |
| Solimaniyeh and Arbil (Iraq)                                | 16 Apr. 1987 | Aircraft  | 450            | Mustard gas |
| Sardasht - Mavout   | 28 Apr. 1987 | Aircraft  | -              | -           |
| Karbala 10 Operational Theatre                              | 7 May 1987   | Aircraft  | -              | -           |
| Baaneh - Bulhassan & Soroul Villages                        | 7 May 1987   | Aircraft  | 90             | -           |
| Gharahdagh Village  | 8 May 1987   | Aircraft  | 21             | -           |
| NASR 4 Operational Theatre                                  | 22 June 1987 | Aircraft  | -              | -           |
| 4 areas in Sardasht   | 28 June 1987 | Aircraft  | 8 025          | Mustard gas |
| Gallehvasht Village in Sardasht                             | 29 June 1987 | Aircraft  | 132            | Mustard gas |
| Around main headquarters in Sardasht                        | 29 June 1987 | Aircraft  | 2              | -           |
| Fath 7 Operational Theatre                                  | 30 June 1987 | Aircraft  | 16             | -           |
| Karbala 6 Operational Theatre in Sumar                      | 8 Oct. 1987  | -         | 100            | Nerve gas   |
| Garmaab Village in Baakhtaran                               | 12 Mar. 1988 | Aircraft  | 5              | -           |
| Ghalejy Village in Marivan                                  | 17 Mar. 1988 | Aircraft  | -              | -           |
| Nosud City  | 18 Mar. 1988 | Aircraft  | -              | -           |
| Dezli Village   | 18 Mar. 1988 | Aircraft  | -              | -           |
| Ghalejy Village in Marivan                                  | 19 Mar. 1988 | Aircraft  | -              | -           |
| Ghalejy Village in Marivan                                  | 22 Mar. 1988 | Aircraft  | 450            | -           |
| North Western part of Nodsheh in Tovaileh                   | 22 Mar. 1988 | Aircraft  | -              | -           |
| Eslamaabad City   | 22 Mar. 1988 | -         | -              | -           |
| Alout area in Sardasht                                      | 22 Mar. 1988 | Aircraft  | 8              | -           |
| Kaanidenar area in Marivan                                  | 22 Mar. 1988 | Aircraft  | -              | -           |
| Tazeh Aabaad, Baalak, Nezhmaar, Ghalejy Villages in Marivan | 22 Mar. 1988 | Aircraft  | 395            | -           |
| Halabja and Villages around Khormaali                       | 16 Mar. 1988 | Aircraft  | 3 500          | -           |
| Halabja   | 18 Mar. 1988 | Aircraft  | 9 000          | -           |





FEDERAL REPUBLIC OF GERMANY

Provision of data relevant to the Chemical Weapons Convention

1. The provision multilaterally of essential data prior to the signing of the Convention is required. The types of data which need to be submitted in this regard on a voluntary basis are set out in the attachment. Where necessary the data should be provided according to stated references.

It is important for the holders of the largest stocks to provide early data. It is also important for the Convention to be truly effective, that such multilateral provision of data should be conducted with the widest possible participation of States.

2. Exchanges of additional data relevant to the Convention could be a matter for bilateral arrangements between interested States.

Attachment

| TYPE OF DATA  | PURPOSE  |
|---|--|
| 1. Presence of CW on own territory;<br><br>Possession of CW on territory of another State   | To determine the number of States requiring inspections of CW  |
| 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 thresholds to be determined */ | To determine the number of inspections, the size of the International Inspectorate and costs (order of magnitude)                                |
| 3. - Types and names of CW agents produced<br><br>- Types of CW munitions stored; CW agents in bulk<br><br>- Names of chemicals on schedules (1), (2) and (3) produced in the chemical industry */  | To determine the qualifications and training of personnel, determine equipment needed for the International Inspectorate, and to determine costs |
| 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                               | To determine the practicability of the destruction process   |

\*/ The question of information on toxic chemicals not listed in schedules (1), (2) or (3) that might be relevant to the Convention requires further consideration pending further work on the matter.





# CONFERENCE ON DISARMAMENT

CD/830  
CD/CW/WP.201  
19 April 1988

Original: ENGLISH

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LETTER DATED 18 APRIL 1988 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A DOCUMENT ENTITLED "INFORMATION PRESENTED TO THE VISITING SOVIET DELEGATION AT THE TOOELE ARMY DEPOT, 18-21 NOVEMBER 1987 1/

I have the honour to transmit herewith the text of a document entitled "Information Presented to the Visiting Soviet Delegation at the Tooele Army Depot, 18-21 November 1987."

I would request that you make arrangements for the document to be issued as an official document of the Conference on Disarmament, and as a working paper of the Ad Hoc Committee on Chemical Weapons.

(Signed)

Max L. Friedersdorf  
United States representative  
to the Conference on Disarmament

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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 United States Delegation to the Conference on Disarmament at Geneva.







# CONFERENCE ON DISARMAMENT

CD/842  
22 July 1988

ENGLISH  
Original: RUSSIAN

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(Extract)

LETTER DATED 22 JULY 1988 FROM THE PERMANENT REPRESENTATIVE OF THE POLISH PEOPLE'S REPUBLIC ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT, TRANSMITTING THE TEXTS OF THE COMMUNIQUE OF THE MEETING OF THE POLITICAL CONSULTATIVE COMMITTEE OF THE STATES PARTIES TO THE WARSAW TREATY, THE STATEMENT BY THE STATES PARTIES TO THE WARSAW TREATY ON NEGOTIATIONS ON REDUCTIONS IN ARMED FORCES AND CONVENTIONAL ARMS IN EUROPE AND THE IMPLICATIONS OF THE ARMS RACE FOR THE ENVIRONMENT AND OTHER ASPECTS OF ECOLOGICAL SECURITY, ADOPTED AT THE MEETING OF THE POLITICAL CONSULTATIVE COMMITTEE OF THE WARSAW TREATY ORGANIZATION, HELD IN WARSAW ON 15 AND 16 JULY 1988

I have the honour to transmit herewith the following texts:

- Communiqué of the Meeting of the Political Consultative Committee of the States Parties to the Warsaw Treaty,
- Statement by the States Parties to the Warsaw Treaty on Negotiations on Reductions in Armed Forces and Conventional Arms in Europe,
- Implications of the Arms Race for the Environment and Other Aspects of Ecological Security,

adopted at the Meeting of the Political Consultative Committee of the Warsaw Treaty Organization, held in Warsaw on 15 and 16 July 1988.

I should like to request you to have the texts of this letter and of the enclosed documents circulated as an official document of the Conference on Disarmament.

(Signed) Bogumil SUJKA  
Ambassador

6. The States parties to the Warsaw Treaty renew their appeal to the NATO States, the States participating in the CSCE and the international community as a whole to step up efforts aimed at the earliest possible conclusion of major agreements on reductions in arms and armed forces and on stronger security and stability, and to refrain from any actions which may impede progress in this direction.

They single out the following priority objectives in the field of disarmament:

To conclude a treaty for a 50 per cent reduction in Soviet and United States strategic offensive weapons, in strict compliance with the ABM Treaty in its 1972 form and with no withdrawal from it within the time agreed;

To effect a complete and universal ban on nuclear weapon testing and, as steps towards that goal, to conclude agreements on effective verification measures, so as to facilitate the earliest possible ratification of the 1974 and 1976 treaties between the USSR and the United States, and to conclude agreements on further reducing the yield and number of nuclear explosions conducted by the USSR and the United States;

To conclude a convention on the complete prohibition of chemical weapons and the destruction of stockpiles of such weapons;

To reduce armed forces and conventional armaments in Europe and cut military spending accordingly.





LETTER DATED 21 JULY 1988 ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT FROM THE CHARGE D'AFFAIRES A.I. OF FINLAND TRANSMITTING A DOCUMENT ENTITLED "STANDARD OPERATING PROCEDURES FOR THE VERIFICATION OF CHEMICAL DISARMAMENT; D.1 A PROPOSAL FOR PROCEDURES SUPPORTING THE REFERENCE DATABASE" 1/

I have the honour to transmit to you a document entitled "Standard Operating Procedures for the Verification of Chemical Disarmament; D.1 A Proposal for Procedures Supporting the Reference Database". This report represents a further contribution by Finland to the work of the Conference on Disarmament in the field of chemical weapons.

I would appreciate it if the report were to be circulated as an official document of the Conference on Disarmament.

(Signed): Pekka Huhtaniemi  
Chargé d'Affaires a.i.  
Permanent Mission of Finland

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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.







# CONFERENCE ON DISARMAMENT

CD/846 \*/  
29 July 1988

Original: ENGLISH

(Extract)

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LETTER DATED 25 JULY 1988 FROM THE REPRESENTATIVE OF THE UNITED STATES OF AMERICA ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF A DOCUMENT ENTITLED "JOINT STATEMENT BETWEEN THE UNITED STATES AND THE UNION OF SOVIET SOCIALIST REPUBLICS ISSUED FOLLOWING MEETINGS IN MOSCOW, USSR - 29 MAY TO 1 JUNE 1988" \*\*/

I have the honour to transmit herewith the text of a document entitled "Joint Statement between the United States and the Union of Soviet Socialist Republics Issued Following Meetings in Moscow, USSR - 29 May-1 June 1988" issued by the United States of America and the Union of Soviet Socialist Republics on 1 June 1988.

I would request that you make arrangements for the Statement to be issued as an official document of the Conference on Disarmament.

(Signed) Max L. Friedersdorf  
United States Representative to  
the Conference on Disarmament

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\*/ Re-issued for technical reasons.

\*\*/ The Russian text of the Joint United States-Soviet Statement is to be found in CD/844.

## Chemical Weapons

The leaders reviewed the status of on-going multilateral negotiations and bilateral U.S.-Soviet consultations toward a comprehensive, effectively verifiable, and truly global ban on chemical weapons, encompassing all chemical weapons-capable states. They also expressed concern over the growing problem of chemical weapons proliferation and use.

The leaders reaffirmed the importance of efforts to address, as a matter of continuing urgency, the unique challenges of a chemical weapons ban and to achieve an effective convention. While noting the progress already achieved in the talks and the difficult problems with regard to effective monitoring of the global prohibition of chemical weapons and the non-use of dual-capable chemicals for chemical weapons purposes, the leaders underlined the need for concrete solutions to the problems of ensuring effective verification and undiminished security for all convention participants. They gave instructions to their respective delegations to this effect.

Both sides agreed on the vital importance of greater openness by all states as a way to build confidence and strengthen the foundation for an effective convention. The leaders also emphasized the necessity of close coordination on a multilateral basis in order to ensure the participation of all CW-possessing and CW-capable states in the convention.

Both sides strongly condemned the dangerous spread and illegal use of chemical weapons in violation of the 1925 Geneva Protocol. They stressed the importance of both technical and political solutions to this problem and confirmed their support for international investigations of suspected violations. Noting the initial efforts being made to control the export of chemicals used in manufacturing chemical weapons, the leaders called on all nations with the capability of producing such chemicals to institute stringent export controls to inhibit the proliferation of chemical weapons.





## UNITED STATES OF AMERICA

Destruction of Chemical Weapons Production FacilitiesIntroduction

Under a future chemical weapons convention, a State Party must destroy its chemical weapons production facilities in a manner that prevents environmental contamination, provides for the safety of operational and inspection personnel and ensures that neither the equipment nor buildings can be used again. Specific details of the methods and techniques employed for destruction will vary with the configuration of the facility, type(s) of chemicals produced and munitions filled. Details will be specified in detailed arrangements developed by the State Party for each facility and approved by the Executive Council.

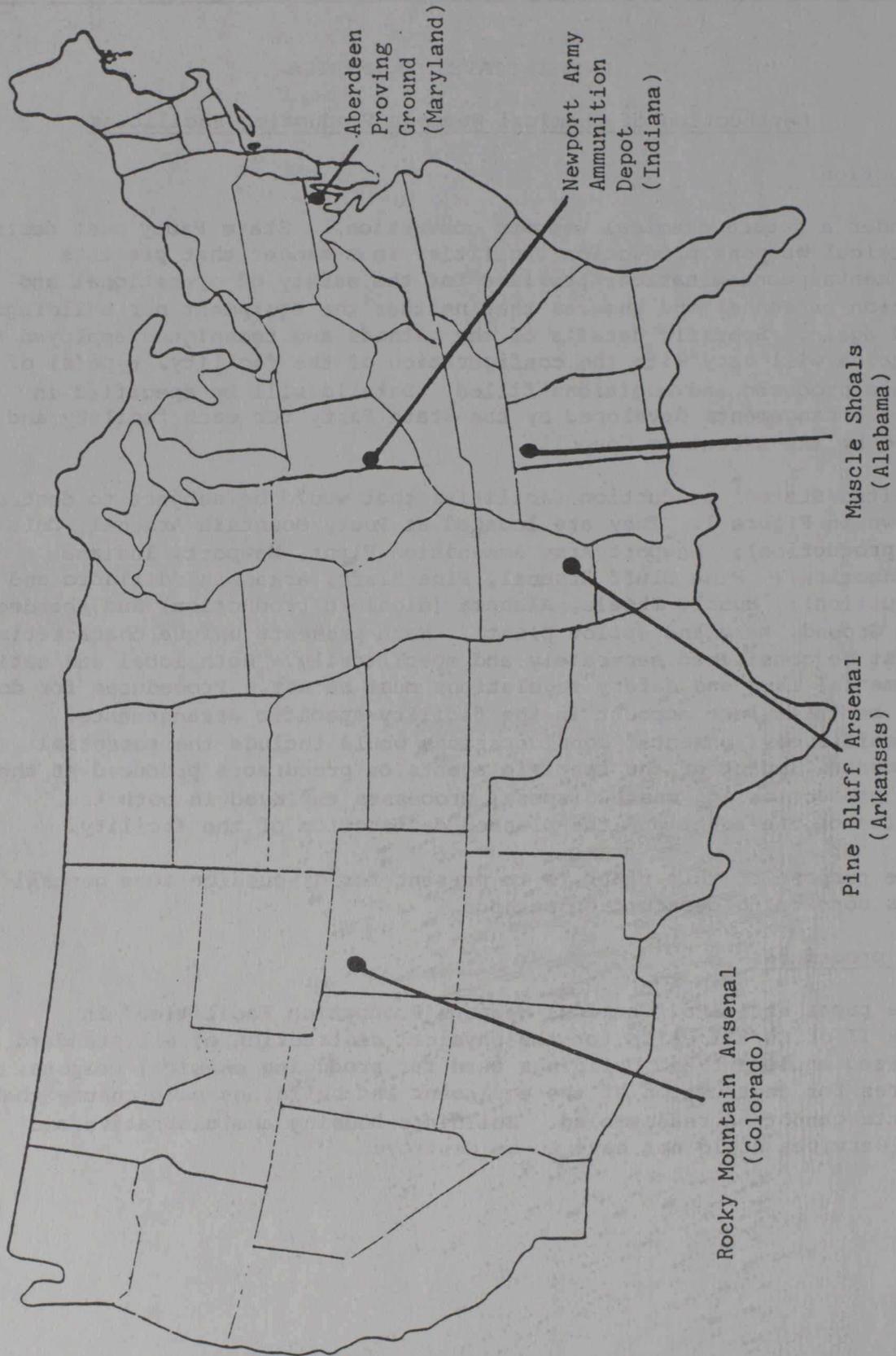
United States' production facilities that would be subject to destruction are shown in Figure 1. They are located at Rocky Mountain Arsenal, Colorado (sarin production); Newport Army Ammunition Plant, Newport, Indiana (VX production); Pine Bluff Arsenal, Pine Bluff, Arkansas (difluoro and QL production); Muscle Shoals, Alabama (dichloro production) and Aberdeen Proving Ground, Maryland (pilot plant). Each presents unique characteristics that must be considered separately and specifically. Both local and national environmental laws and safety regulations must be met. Procedures for doing so must be taken into account in the facility-specific arrangements. Site-specific environmental considerations would include the potential environmental impact of the specific agents or precursors produced at the site and the production and waste disposal processes employed in both the production of the agent and the planned destruction of the facility.

The purpose of this paper is to present for discussion some general concepts concerning destruction methods.

General procedures

The paper entitled "Chemical Weapons Production Facilities" in Appendix II of CD/831 calls for the physical destruction of all standard and specialized equipment and buildings used for producing chemical weapons. The procedures for destruction of the equipment and buildings must ensure that the components cannot be reassembled. Buildings housing administrative and support services would not have to be destroyed.

FIGURE 1. CHEMICAL WEAPONS PRODUCTION FACILITIES



Specific safety procedures for destruction are governed by the toxicity of the chemicals involved at a particular stage in the process. Areas where supertoxic (Schedule 1) chemicals were handled would present the greatest potential hazard to workers and therefore their destruction would be the most labour intensive and time consuming. Extreme precautions would be required. Less stringent precautions would be needed for the destruction of stages where less toxic precursors (Schedule 2 chemicals) were produced. Within a specific facility, from a practical and safety standpoint, it would be prudent to begin the destruction process with the most hazardous area first.

#### Destruction of supertoxic chemical facilities

The first step in actual destruction of a supertoxic chemical production facility would be to flush an appropriate decontaminant solution such as aqueous sodium hydroxide through all process equipment and to wash down all equipment surfaces, walls, ceilings, and floors to remove surface contamination. This surface decontamination effort would be slow and labour intensive since personnel will have to be dressed in cumbersome protective clothing.

Once all surface contamination has been removed, actual disassembly and destruction can begin. While much of the equipment can be taken apart by the removal of bolts and fasteners, large pieces of equipment such as reactor vessels and storage tanks would have to be cut into small pieces by acetylene torches. In addition to the large pieces of equipment, all other special and standard equipment, such as valves, gauges, piping, and production control equipment must be destroyed after disassembly by cutting into pieces, crushing, heating or other techniques that would render the equipment irreversibly unuseable.

All personnel conducting disassembly and destruction operations would have to wear protective masks and clothing. Toxic vapours may be generated by heating metal surfaces that retain small quantities of residual agent. Agent also will probably have seeped into areas such as seals, gaskets, and interior joints where surface decontamination efforts cannot reach. Pieces of dismantled metal equipment can be thoroughly decontaminated by heating in a metal parts furnace at 540 degrees Celsius for a minimum of 15 minutes.

During the disassembly of a supertoxic chemical facility, not only must personnel be in protective clothing but the air must be monitored continuously to assess the presence and concentration of any vapour to which workers may be exposed. Liquid waste from the surface decontamination operations must be collected, monitored for the presence of agents and incinerated or, if necessary, further chemically neutralized and disposed of in an environmentally safe manner. Residual salts from either incineration or chemical neutralization must also be disposed of in an acceptable manner. Incineration produces significantly less residue.

#### Destruction of non-supertoxic chemical facilities

In general, the steps in destruction of non-supertoxic facilities (precursors on Schedule 2) would parallel those for a supertoxic facility, except that operating personnel would not have to be in chemical protective clothing. Standard industrial practices and precautions would be sufficient. As a result, the destruction process would be more rapid and less costly.

### Demolition of buildings

Process equipment for low toxicity operations with non-supertoxic precursor chemicals is likely to be located in the open or in buildings of light construction. Demolition could be readily carried out using standard demolition equipment and procedures.

Supertoxic chemicals of low vapour pressure are likely to have been produced and filled into munitions in buildings of light construction. In the United States however, the relatively volatile supertoxic chemical sarin was produced and filled into explosive-containing munitions in massive reinforced concrete structures. These will be considerably more difficult to demolish. Munitions not containing explosive were filled with sarin in a building of light construction.

To destroy any residual toxic chemicals, rubble from demolition operations could be heat treated or incinerated in a high temperature rotary kiln and then buried in an approved landfill. Where required by law, appropriate environmental permits would have to be obtained prior to the final disposal. As an indication of the magnitude of the amount of material that may have to be disposed of, it has been estimated that the demolition of the sarin facilities at Rocky Mountain Arsenal would produce 114,000 tons of rubble.

Demolition of specialized and standard buildings used in the production of chemical weapons would be accomplished and verified in accordance with an approved plan for the specific facility. Verification would be by the on-site presence of international inspectors.

### Demolition of non-chemical facilities and equipment

Declaration and destruction of facilities used exclusively for the production of non-chemical parts for chemical munitions or special equipment for chemical weapons employment has been proposed (see paragraph 3 of the paper on Chemical Weapons Production Facilities in Appendix II of CD/831). The United States has no such facilities. However, where necessary, destruction of such facilities could be accomplished using the standard industrial procedures used for the destruction of non-supertoxic chemical facilities. Verification would be accomplished by the procedures contained in the Annex to Article V of the draft convention.

In the United States, especially designed equipment for the production of such non-chemical items is located in facilities whose primary purpose is not related to chemical weapons production. Such equipment would be declared in the State Party's initial declaration. It would subsequently be transported to a designated facility for destruction. International inspectors would verify the destruction by direct observation. Specific details of the disassembly, transport to the designated facility and destruction procedures would be specified in the destruction plans approved by the Executive Council.

### Time and manpower requirements

Since it is not possible to make any accurate estimate of costs without a specific facility in mind, only a very general estimate of time and manpower requirements and costs for destruction can be made at this time. Generally

speaking, it appears that many hundreds of man-years of effort and tens of millions of dollars will be required to eliminate a large-scale production facility.

The scale of effort required can be illustrated by United States' experience in dismantling equipment at Rocky Mountain Arsenal which was once used to demilitarize the M34 Agent GB (sarin) cluster bomb. This effort involved 350 men working for 2-3 months (50-60 man-years) and cost roughly two million dollars. As a very crude estimate, destruction of the remaining chemical weapons production and filling facilities at Rocky Mountain Arsenal would require an effort at least an order of magnitude greater. At least two years would be required to accomplish such an effort, not including time required for planning, publishing the proposed plan and the public review process may add as much as an additional two to three years to the overall destruction process.

#### Environmental requirements

The world-wide increased awareness and interest in environmental quality and preservation has a direct impact on the development, selection, and implementation of destruction methods. Approved procedures must assure minimal degradatory impact on the environment. Selection of the optimum methodologies in relation to available resources and ability to meet existing environmental laws and regulations is a critical process that must be recognized and addressed in developing plans and schedules for destruction.

Although environmental laws and regulations will be different in each State Party, for this paper, the environmental laws and regulations of the United States will be used to illustrate a type of an environmental approval process.

The National Environmental Policy Act (NEPA) of 1969 establishes national environmental policy, sets goals and provides the means for implementing the policy. It provides "action forcing" provisions to make sure that all agencies of the Government act in accordance with both the letter and spirit of the law.

One of the most important provisions of NEPA is the requirement for the publication of a detailed analysis of the potential impact of any proposed actions that may significantly affect the quality of the human environment. This documented analysis is called an environmental impact statement (EIS) and is the basis for a formal record of decision of specific approved actions to be accomplished. Appropriate federal, State and local agencies and the general public are key participants in the planning, review and approval of the final environmental impact statement and record of decision. The process starts with the public announcement of a "notice of intent" of an agency of the federal Government to take certain actions (such as the destruction of a chemical weapons production facility). The "notice of intent" would announce the time and place of a public "scoping" meeting where all interested parties, both Government and private, can come together to discuss the proposed action to assure that all pertinent environmental issues and alternatives are analysed in detailed in the draft environmental impact statement (DEIS).

After the draft environmental impact statement is published, another public meeting is scheduled for a public review of the document. All comments received are considered and incorporated into or appended to the final environmental impact statement (FEIS). Based on the final environmental impact statement, a record of decision is published that states the decision to be implemented, identifies all alternatives considered in reaching the decision, and recommends the preferred alternative.

Implementation of the record of decision must be approved by the United States Congress and may require the passage of implementing legislation at the national level. Implementation will also require federal, State and local permits for the safe handling of hazardous waste materials. These permits are required under the Clean Air Act (CAA) and the Resources Conservation and Recovery Act (RCRA). Applications for the required permits must assure the issuing authority that all hazardous materials will be disposed of in an environmentally safe manner which meets the intent of all existing laws and regulations. The process is extremely important, but very time consuming and expensive. Adherence is essential to ensure optimum practical solutions to potentially serious environmental issues.

#### Monitoring of destruction

Destruction of production facilities would be verified by on-site inspection. Section V of the Annex to Article V of the draft convention (CD/831) provides general provisions for the monitoring and verification of chemical weapons production facilities from initial declaration to final destruction through systematic on-site inspection and continuous monitoring with on-site instruments installed by international inspectors. However, detailed criteria and procedures necessary to implement the general provisions remain to be elaborated. For example, the types of monitoring instruments to be installed, their operation and maintenance and detailed inspection procedures for on-site inspections that would be specified in agreements on subsidiary arrangements for each facility are yet unknown. Also, criteria must be developed that can be used to define the level of transformation and disposition of equipment and buildings that constitutes destruction in terms of the convention.

The general provisions in the current draft convention will, when the required detailed procedures and criteria are developed and agreed upon, provide an effective mechanism for confidence building and verification.





# CONFERENCE ON DISARMAMENT

CD/854

8 August 1988

Original: ENGLISH

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LETTER DATED 8 AUGUST 1988 FROM THE PERMANENT REPRESENTATIVE OF AUSTRALIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A STATEMENT BY MR. BILL HAYDEN, MP, AUSTRALIAN MINISTER FOR FOREIGN AFFAIRS AND TRADE, DATED 5 AUGUST, ON THE SUBJECT OF THE USE OF CHEMICAL WEAPONS IN THE GULF WAR

Attached to this letter is a statement by Mr. Bill Hayden, MP, Australian Minister for Foreign Affairs and Trade, dated 5 August, on the subject of the use of chemical weapons in the Gulf War.

I would be grateful if this statement could be distributed as a document of the Conference on Disarmament.

(Signed) RICHARD BUTLER, AM  
Ambassador and Permanent Representative  
of Australia to the United Nations for  
Disarmament Matters  
Head of Delegation

STATEMENT BY MR. BILL HAYDEN, MP, AUSTRALIAN MINISTER FOR  
FOREIGN AFFAIRS AND TRADE, ON THE USE OF CHEMICAL WEAPONS  
IN THE GULF WAR

The Minister for Foreign Affairs and Trade Mr. Hayden said that the Australian Government was distressed and shocked by the latest report of the United Nations Secretary-General concerning the use of chemical weapons in the Gulf War.

The report, based on an investigation by United Nations experts who visited Iraq and Iran in early July, has now been released. It concludes that "... the use of chemicals in the present conflict has been intensifying and has also become more frequent", and that "... chemical weapons continue to be used on an intensive scale against Iranian forces".

The Minister recalled that an Australian expert had participated in earlier United Nations investigations which also concluded that chemical weapons had been used in the Gulf War. Despite the repeated evidence and the condemnation of the international community, the illegal employment of these horrible weapons has continued.

Mr. Hayden repeated in the strongest terms the revulsion of the Australian community and the Australian Government at the continued use of chemical weapons. Australia had taken practical steps to ensure that our chemical industry was not associated even inadvertently with the production of these weapons.

These steps included the implementation of a régime of export controls for those chemicals that could be used to make such weapons. Mr. Hayden praised the co-operative and responsible attitude of the Australian chemical industry in this endeavour.

The Minister also said that the way to eliminate these weapons once and for all was speedily to complete the comprehensive and universal convention being negotiated in Geneva. Australia was working actively towards that end.





## UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Working Paper

## PAST PRODUCTION OF CHEMICAL WARFARE AGENTS IN THE UNITED KINGDOM

Introduction

1. Attention has been drawn on a number of occasions to the need for certain data to be provided on a multilateral or bilateral basis prior to the signing of the Convention. CD/828 submitted by the delegation of the Federal Republic of Germany proposed a framework for a multilateral data exchange covering inter alia the possession and production of chemical weapons.

2. It is well known that the United Kingdom abandoned its offensive chemical warfare capability some thirty years ago in the late 1950s. However, the delegation of the United Kingdom believes it may be helpful to the negotiations to present information on its past arrangements for the production of chemical warfare agents and on its experience in dismantling production facilities.

Production

3. From 1938 to 1942, seven Ministry of Supply factories were established at Randle, Valley, Springfields, Wade, Rocksavage, Millhouse and Roydmills. The first three were involved with the manufacture and storage of mustard gas, either HS (bis(2-chloroethyl)sulphide) of the considerably more stable and less corrosive HT (a mixture of 60 per cent HS with 40 per cent di(2-chloroethylthio)diethylether). Other agents produced included phosgene, bromobenzyl cyanide, Lewisite, diphenylamine chlorarsine, methyl dichloroarsine and ethyl iodoacetate. The Ministry of Supply Research Establishment at Sutton Oak was also concerned with operational production. In all about 60,000 tons of toxic agents were produced of which about 40,000 tons was mustard gas.

4. The majority of these factories included facilities for charging shells, bombs, mines and spray tanks with toxic agents. At the end of the war, all the facilities became inoperative and were held on a minimum care and maintenance basis.

5. After World War II, the only preparation of CW agents in quantity took place during the period 1954-56 at the Ministry of Supply Establishment at Nancekuke in Cornwall. Previously a Royal Air Force airfield, Nancekuke was

converted in 1950 by the Ministry of Supply for use as a pilot plant to establish the feasibility of producing the nerve agent GB. Agent preparation activities were limited and no new chemical munitions or agents entered service; all activity was essentially experimental.

6. The design of the pilot plant at Nancekuke was based upon research carried out at Sutton Oak. It had a nominal production capacity of 1 ton per week. The plant was housed in special facilities designed to handle highly toxic materials. A building complex consisting of all necessary services was constructed during the period 1951-53; the plant was commissioned using a simulant during 1953 and operated only over the next two years before its closure in 1956.

7. The primary aims of the operations were to establish data for the design of a larger scale production facility (50 tons/week) on an adjacent site and to study the storage stability of the bulk agent. The larger plant was never built.

8. A total quantity of 20 tons of GB was produced, the plant being run on a 2/3 shift basis during the period January 1954 - January 1956. The storage stability was measured over a period of 10 years: from which it was deduced that the agent would have a shelf life of about 20 years. At the end of the storage trial the majority of the product was destroyed in line with the decision taken to abandon the United Kingdom's offensive CW capability. Research quantities only were kept and eventually transferred to the Chemical Defence Establishment, Porton Down. No other nerve agents were produced in other than research quantities.

9. Although an experimental weapon charging facility to handle 25 pounder shells was installed it was only trialled with simulants. No weapons were charged with GB or any other nerve agent.

10. Safety and Medical Aspects. It was necessary to provide adequate safety and medical procedures for the operation of the plant. These can be summarized as follows:

- (a) access to the area was strictly controlled;
- (b) all workers were medically examined on exit from the area and regular cholinesterase blood tests were done;
- (c) respirators were carried at all times;
- (d) factory clothing and protective clothing was supplied;
- (e) in-house detection was provided in the operating corridors on the toxic buildings;
- (f) gaseous effluent was extracted from the buildings by fans and passed through an absorption tower through which sodium hydroxide was recirculated before entering the atmosphere;
- (g) liquid effluent was decontaminated and collected in a large open tank, tested, and treated further if necessary.

Closure/dismantling

11. In 1956 the Nancekuke pilot plant was filled with sodium hydroxide solution, then drained down and not used further. The site at Nancekuke was used after 1956 for a variety of tasks in connection with the United Kingdom's research programme and work on protective equipment.
12. In 1976, the decision to close the site at Nancekuke was taken and there was a need to clear it of all chemical activity and to dismantle the GB pilot plant completely. Where buildings had contained plant used in toxic or hazardous operations, the policy had always been to decontaminate that plant once its use had ended. Consequently, although plant was still in place in a number of buildings, it had received preliminary decontamination. Thus the first step in the dismantling process had been to fill the equipment as far as possible with the appropriate decontaminant, usually aqueous or alcoholic sodium hydroxide or sodium hypochlorite. After an appropriate time, the plant was drained, so that dismantling could commence.
13. After decontamination, detection equipment appropriate to the hazard was introduced into the plant cubicle to test for background contamination before any joints were broken. Once it had been shown that no hazardous material was present, personnel in full protective clothing commenced dismantling from the top downwards in each separate cubicle. As each joint was broken, the jointing materials were placed in decontaminant and the piece removed, with each open end sealed with neoprene or other suitable material, and was transferred to a large bath of decontaminant as a further safeguard. The whole operation was monitored using appropriate detection and monitoring equipment. A number of positive alarms occurred although the original decontamination had taken place more than 20 years earlier. Where the positive alarm was shown to arise from an anticholinesterase agent, personnel were withdrawn from the cubicle until the ventilation system had reduced contamination to an undetectable level which usually involved a maximum time of 1 hour; the exhaust gases from the ventilation system were scrubbed in a tower through which aqueous caustic soda flowed.
14. The components of the plant were dismantled systematically making sure that every joint which decontaminants might not have reached was properly broken and retreated. Once the plant itself had been removed, all the auxiliary services were similarly treated, particular care being taken with service lines such as vacuum. Then followed the systematic decontamination of cubicle walls prior to their removal. Lastly the walls of the building and the drains were treated with decontaminant and washed through with water. All decontamination effluent was collected and treated at source or held in effluent tanks where it was neutralized and tested before it was discharged.
15. Nineteen Governments accepted the invitation to the Committee on Disarmament to send representatives on a visit to the United Kingdom in 1979 to inspect the process of dismantling the pilot nerve agent facility. Some notes on the major tasks involved were set out in CD/15.
16. The site was finally cleared and vacated in September 1980 and has reverted to use by the Royal Air Force.







LETTER DATED 12 AUGUST 1988 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. DEVELOPMENT OF PROCEDURES FOR VERIFICATION OF ALLEGED USE OF CHEMICAL WARFARE AGENTS.

PART VII" \*/

I have the honour to transmit to you a research report entitled Verification of a Chemical Weapons Convention. Development of Procedures for Verification of Alleged Use of Chemical Warfare Agents. Part VII, published by the Royal Norwegian Ministry of Foreign Affairs.

I would appreciate if the report would be circulated as an official CD document.

(Signed) Sten Lundbo  
Chargé d'affaires a.i.

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\*/ 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.







## NORWAY

Verification of Alleged Use of Chemical Weapons

## 1. INTRODUCTION

Norway's research programme on verification of alleged use of chemical weapons, which was initiated in 1981 by the Ministry of Foreign Affairs, is being carried out by the Division for Environmental Toxicology of the Norwegian Defence Research Establishment at Kjeller. The research findings have been presented to the Conference on Disarmament in annual reports and working papers. In 1987, Norway was in the position of elaborating general procedures for verification of alleged use of chemical weapons (document CD/762 of 24 June 1987). These research reports and documents are contained in the publication Contributions by Norway to the Conference on Disarmament 1982-1987, published by the Norwegian Ministry of Foreign Affairs in March 1988 (document CD/813 of 7 March 1988).

In addition, and in the context of the negotiations on Article IX of the Chemical Weapons Convention, Norway has together with Canada submitted a proposal for a text for an Annex to this Article on such procedures (document CD/766 of 2 July 1987).

The Norwegian research programme is proceeding with a view both to elaborating more detailed procedures which can be used by an international inspection team and to testing and, if necessary, improving the elaborated procedures in the light of inter alia scientific and technical developments in this field. In 1987-1988, the research has been focused on elaborating procedures and data pertinent to verification of chemical warfare agents under summer conditions and on improving the technical aspects of analytical methods.

## 2. DEVELOPMENT OF PROCEDURES FOR VERIFICATION OF ALLEGED USE OF CHEMICAL WEAPONS IN THE CONTEXT OF A CHEMICAL WEAPONS CONVENTION

2.1 Verification of chemical warfare agents under summer conditions

The possibility of obtaining a positive verification depends on the persistence of the agent which has been used. The research programme undertaken during the winters of 1981-1982, 1982-1983, 1983-1984 and 1984-1985 clarified the persistence of several possible chemical warfare agents under winter conditions. The research in 1987-1988 has been concentrated on field experiments to obtain information about the corresponding persistence of such agents under summer conditions.

During two field exercises in October 1987 and June 1988 small amounts (1 milligram) of the nerve agents sarin, soman, tabun and VX, the blister agent mustard gas, and the production impurity of sarin, diisopropyl methylphosphonate were added to small samples of water, soil, sand and grass. The samples were left in the field, exposed to prevailing weather conditions.

During the main exercise in June 1988 the temperature varied between 20°C and 34°C during the day and between 10°C and 20°C during the night over a period of 14 days. Samples were collected after 1, 2, 4, 7 and 14 days. The samples of soil, sand and grass were extracted with water and the aqueous solutions were added to a polymer adsorbent (C-18 cartridge) to adsorb the agent. The agents were then eluted from the cartridges with chloroform, and the eluates were analysed by a gas chromatograph equipped with a multiple ion detector.

Significant amounts of tabun for analytical purposes were found in all samples. The samples taken from grass, soil, sand and water contained between 300 and 700 nanograms of tabun. This is well above the detection limit which was 10-50 nanograms. For sarin, large amounts (20 micrograms) were recovered in the water sample after 14 days. The amount detected from sand and soil was about 100 nanograms, which is well above the detection limit (1-10 nanograms). Positive verification of sarin on grass after 14 days has not yet been obtained.

The findings for soman showed that both water and soil were excellent materials for sampling. Soman was also found in all samples from grass and sand. After 14 days the amount of soman in the samples varied between 40 and 700 nanograms, whereas the detection limit was 1-10 nanograms. VX was found in all samples after 14 days. More than 100 micrograms were left in the water sample and about 1 microgram in the other samples. The detection limit for VX in such samples was 10-50 nanograms. The recovered amount of the blister agent mustard gas after exposure of 1 milligram droplet was in the nanogram range after two days, and seemed to stabilize at this level. After 14 days the amount of mustard found in the samples was between 20 and 60 nanograms, whereas the detection level was 1-10 nanograms.

More than 500 micrograms of diisopropyl methylphosphonate were detected in the samples taken from water and soil and about 50 nanograms from grass and sand. This is far above the detection limit of diisopropyl methylphosphonate.

The findings of the exercise in October 1987, which took place under somewhat cooler weather conditions (10°C), were in accordance with the reported results of the main exercise. Additional studies showed that the hydrolysis product of soman and sarin could be detected even after 4 weeks of summer conditions (ref. 2.2.2.)

## 2.2 Improvement of analytical procedures

### 2.2.1 Adsorbents

The use of small cartridges filled with an adsorbent for preparation of different types of samples has become common in analytical work. Several adsorbents are therefore available in this form. Since most of the warfare agents contain a non-polar alkyl chain, the best adsorbent will be of a

non-polar type. Six different non-polar adsorbents were compared to select the best one. Aqueous solutions of the different agents were passed through the cartridges, and the eluates were analysed by gas chromatography.

The results of the testing of the different adsorbents applied to adsorb chemical warfare agents from aqueous solutions, showed that the long alkyl-chained adsorbents C-8 and C-18 were the best general adsorbent for screening the nerve agents sarin, soman, tabun and VX, the blister agents mustard gas, and the production impurity of sarin, diisopropyl methylphosphonate. These cartridges, containing 100 milligrams adsorbents, were the most efficient in the overall procedure, i.e. both for the adsorption of the warfare agents and in the release of agents after elution with chloroform.

C-18 was preferred to C-8 since it gave the best results with a water sample of 100 millilitres. It should be remembered that C-8 gave slightly better results with small aqueous sample volumes (10 millilitres) of soman and tabun when eluted with 2-propanol instead of chloroform. This may be required for analysis by certain gas chromatographic detectors.

#### 2.2.2 Analysis of hydrolysed nerve agents

Previous work has underlined the importance of using the degradation products of the nerve agents as a means of verification. These products are more stable and less volatile than the agents themselves and may therefore be easier to verify. An improved method for analysing hydrolysis products of sarin and soman has been developed.

The present method is based on the use of cartridges filled with an anion exchanger to trap the hydrolysed nerve agents. The cartridges are eluted with the methylating agent trimethyl phenyl ammonium hydroxide. The eluates are injected into the gas chromatograph where the methylation takes place in the injection port and detection can be carried out on the methylated compounds. The cartridge containing an anion exchanger may be combined with a C-18 cartridge. In this way the agents themselves are adsorbed to the first cartridge and hydrolysed nerve agents may be trapped on the second cartridge. This was tested in a field exercise in which samples contaminated with sarin and soman were exposed to prevailing weather conditions for one, two and four weeks before analysis. (Temperature between 10°C and 20°C.)

Three different anion exchangers were tested, and aminopropyl and diethylaminopropyl were found to be applicable in analysis of the hydrolysed nerve agents sarin and soman. The best results were obtained with aminopropyl, which was preferred in the further work. The recoveries varied with the sample volume and were 78 per cent for hydrolysed sarin and 59 per cent for hydrolysed soman from volume of 50 millilitres. The tests showed that cartridges of 100 milligrams are sufficient to deal with aqueous samples of up to 100 millilitres.

This analytical method was applied to samples of water, grass and sand, which were contaminated with 1 milligram of sarin and 1 milligram of soman, and exposed for one, two and four weeks. In the water samples, traces of sarin and soman were detected after four weeks, together with 1 microgram of the hydrolysis products. Hydrolysis products were also found in the samples taken from grass and sand after four weeks.

### 3. CONCLUSIONS

The research conducted in 1987-88 comprised the first full-fledged Norwegian exercises carried out under summer conditions. In the context of a Chemical Weapons Convention it is of interest that the nerve agents sarin, soman, tabun and VX, as well as the blister agent mustard gas, could be verified in contaminated samples from water, soil, sand or grass after two weeks' exposure to summer conditions with temperatures ranging from 10°C to 34°C. In general, water and soil were the best sampling materials from a verification point of view.

The present research is an extension of previous studies on the persistence of chemical warfare agents under winter conditions (1981-1985). It is noted with satisfaction that the procedures developed for winter conditions can be directly applied to work under quite different climatic conditions as described in this working paper. Even more interesting is the fact that the persistence of trace amounts of agents (a few nanograms) needed for analysis is similar to that previously described under winter conditions.

Under winter conditions, the droplets of agents dissolve small amounts of water from the snow. This leads to significant hydrolysis caused by acid catalysis even at low temperatures. In addition, droplets on snow surface are readily evaporated. Under summer conditions trace amounts of the agents are adsorbed in material such as soil and therefore protected from evaporation or degradation. In dilute water solutions the agents are hydrolysed slowly even under summer conditions.

The search for better adsorbents to be used in the field has continued. The best of six adsorbents was a cartridge of C-18 (100 milligrams), which could adsorb all the agents investigated from an aqueous sample of 100 millilitres. This cartridge could be used in combination with an anion exchanger, aminopropyl, to adsorb the hydrolysis products of nerve agents. The hydrolysis products could then be eluted with a methylating reagent and analysed as their methylated products. The whole set-up was successfully tested with samples extracted from sand, soil, grass and water contaminated with sarin or soman. This successful experiment underlines the need for a continuous improvement of the analytical procedures in the light of the rapid scientific and technical developments.





# CONFERENCE ON DISARMAMENT

CD/865  
31 August 1988

Original: ENGLISH

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LETTER DATED 29 AUGUST 1988 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT FROM THE DEPUTY REPRESENTATIVE OF CANADA TO THE CONFERENCE ON DISARMAMENT TRANSMITTING COMPENDIA COMPRISING PLENARY STATEMENTS AND WORKING PAPERS RELATING TO CHEMICAL WEAPONS FROM THE 1987 SESSION OF THE CONFERENCE ON DISARMAMENT 1/

In Ambassador Marchand's Plenary statement on 4 August before the Conference on Disarmament, he announced that our delegation would be making available to delegations the next in our series of compendia on chemical weapons comprising plenary statements and working papers from the 1987 session of the Conference on Disarmament. As you know, similar documents were distributed in 1983, 1986 and 1987 and, with the recent additions, these compendia bring together documentation covering the period 1969-1987 inclusive.

I should be grateful if the necessary arrangements could be made for the distribution of the compendia to the members of the Conference on Disarmament.

(Signed) A.W.J. Robertson  
Minister  
Deputy Representative to the  
Conference on Disarmament

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1/ A limited distribution of this 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.







REPORT OF THE AD HOC COMMITTEE ON THE COMPREHENSIVE  
PROGRAMME OF DISARMAMENT

## I. INTRODUCTION

1. At its 466th plenary meeting, on 19 July 1988, the Conference on Disarmament decided to re-establish the Ad Hoc Committee on the Comprehensive Programme of Disarmament 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 at its forty-third session or, at the latest, at its forty-fourth session if the achievement of that objective was not possible during 1988. The Conference requested the Ad Hoc Committee to report on the progress of its work before the end of the 1988 session.

## II. ORGANIZATION OF WORK AND DOCUMENTS

2. At its 466th plenary meeting, on 19 July 1988, the Conference on Disarmament appointed Ambassador Alfonso Garcia Robles (Mexico) as Chairman of the Ad Hoc Committee. Miss Aida Luisa Levin, Senior Political Affairs Officer, United Nations Department of Disarmament Affairs, served as Secretary of the Committee.

3. The Ad Hoc Committee held six meetings between 28 July and 1 September 1988.

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, Denmark, Finland, Greece, Ireland, Malaysia, New Zealand, Norway, Portugal, Senegal, Spain, Turkey and Zimbabwe.

5. In addition to the documents previously submitted under the agenda item, 1/ the Ad hoc Committee had before it a proposal submitted by Peru relating to the establishment of a zone of peace and co-operation in the South Pacific (CD/CPD/WP.91).

15. All efforts should be exerted to achieve the prohibition of all other weapons of mass destruction, in particular the final elaboration of a convention on the prohibition of the development, production, stockpiling and use of all chemical weapons and on their destruction at the earliest possible date.

CD/867  
page 20

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.
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.





## FEDERAL REPUBLIC OF GERMANY

Working PaperVerification of Non-production of Chemical WeaponsAd hoc checks

Since the submission of CD/791 of 25 January 1988, the idea of ad hoc checks as an additional instrument for verifying the non-production of chemical weapons has attracted considerable attention. Taking account of comments that have been made on this issue within the Ad hoc Committee on Chemical Weapons, the present working paper endeavours to further elaborate on the concept of ad hoc checks with a view to providing a basis for future discussions.

## I.

1. An affective system for verifying non-production of chemical weapons is of crucial importance. The system developed in the current rolling text (CD/831 of 20 April 1988) is based on the matrix system contained in Annexes [1], [2] and [3] to Article VI. This approach provides for routine and systematic verification measures, which are graded in their intrusiveness in accordance with the respective relevance to a CW ban of the substances listed in those annexes. This is and should remain the foundation for effective and viable verification of non-production. Ad hoc checks are of a complementary nature, the system serving as a basic point of reference for them.

2. Under the existing provisions of Annexes [1], [2] and [3] of Article VI only a limited number of facilities of the chemical industry would have to be declared. Indeed a considerably larger number of facilities would remain undeclared and thus would also not be subject to any systematic international monitoring. In many cases, States would not have to declare a single facility of their chemical industry.

In order to come to close this "verification gap" ad hoc checks are being proposed. According to this concept, the International Inspectorate is entitled to carry out routine on-site inspections in all production facilities of the chemical industry.

## II.

1. To ensure the routine character of ad hoc checks, the facilities to be inspected should be selected at random. The International Inspectorate should not depend on information provided by other States Parties when selecting a facility.

For the purpose of strengthening the routine character of ad hoc checks, an elaborate system of passive quotas to be assigned to individual States Parties possibly on the basis of the number of production facilities declared for the purpose of ad hoc checks in that state had been mentioned. However, such a quota system might unduly restrict the flexibility necessary for the efficient handling of ad hoc checks. It could turn them into a cumbersome and thus possibly less effective means of verification. Still the question of inspection quotas could merit further exploration.

The Technical Secretariat would anyhow only be able to carry out ad hoc checks within the limits of its budget and the personnel available to it for this purpose. Consequently certain constraints would already exist. In addition, one should proceed from the assumption that the Technical Secretariat would apply ad hoc checks in an impartial, equitable and balanced manner. Any suspicion that political considerations played a part in the implementation of ad hoc checks or in the selection of a facility to be inspected could undermine the standing and position of the Technical Secretariat and thus adversely affect its ability to perform its functions effectively. Furthermore, allegations of abuse of ad hoc checks by the Technical Secretariat would be a serious matter which could be raised in the political organs of the organization, i.e. the Executive Council and the General Conference. Any abuse would not go unnoticed, nor would it be tolerated.

2. To be able to carry out ad hoc checks effectively, the Technical Secretariat needs to have a clear picture of the world's chemical industry. To this end it is proposed that national registers be established on the basis of an agreed definition of the term "chemical industry". In order to arrive at such a definition expeditiously use should be made of already existing, internationally accepted industry classifications. The harmonized lists of the Customs Co-operation Council could play a useful role in this regard. The

categorization provided in those lists might be taken as a basis for identifying those kinds of activities. (Production of certain chemical substances or groups of substances which have to be considered in this context.) Certain categories of facilities which, owing to the type of their production, are obviously not capable of producing any chemicals relevant to the CW Convention may be excluded from the definition.

On the basis of this definition each State Party to the Convention would establish a national register of its chemical industry to be submitted to the Technical Secretariat. In this register all facilities beyond an agreed production capacity (level to be determined according to military significance of possible annual production) should be listed.

The national registers would also contain information on the main orientation and principal products of each facility listed.

3. The national registers would provided a useful basis for the selection of facilities to be inspected by means of ad hoc checks. The selection would be made at random by the International Inspectorate, and by it alone. In making the selection the inspectors would also take account of a weighting factor: the main orientation of principal products of the facilities. In other words, a facility which might be considered more relevant due to this factor could more readily be chosen and possibly be inspected more often than some other facilities listed (for example, a facility producing organophosphorous compounds can be expected to be a more likely candidate for ad hoc checks than a facility which produces soap). After an initial check the Inspectorate might also consider the intensity with which that particular facility should be monitored by ad hoc checks in the future.

As the national registers would list all facilities of the chemical industry also those already declared under Annexes [1], [2] and [3] to Article VI would also be included.

4. By their very nature ad hoc checks would not be very intrusive, their sole purpose being to ascertain whether, the time of the check, substances listed in Annexes [1], [2] and [3] to Article VI and not reported for the facility in question are being produced there. Only if such an undeclared production is detected should further investigations to establish whether production is in amounts above declaration thresholds be permitted.

In view of the large number of facilities which would be subject to ad hoc checks, it does not seem practicable to make the elaboration of facility attachments for them a requirement for the implementation of ad hoc checks. In view of the limited purpose of ad hoc checks, facility attachments

would also seem unnecessary. The inspectors carrying out ad hoc checks would be highly qualified and familiar with the basic features of chemical facilities. In addition they would be entitled to proper and precise information to be provided to them by the manager/operator of the facility to be checked. Under these circumstances the effective implementation of ad hoc checks (taking of samples at the right spot, analysis of samples on site) would seem to be possible without difficulties.

### III.

For illustrative purposes and with a view to providing a possible basis for further discussions on the concept of ad hoc checks, the following wording of an Annex to Article VI dealing with ad hoc checks is suggested for consideration:

#### GENERAL PROVISIONS

1. The International Inspectorate shall be entitled to carry out ad hoc checks at short notice in production facilities of the chemical industry.
2. The purpose of these checks is to verify on a routine basis whether, at the time of the check, substances listed in Annexes [1], [2] and [3] to Article VI and not reported for the facility in question are being produced there.
3. Ad hoc checks shall be implemented in the least intrusive manner possible.
4. Each State Party undertakes to grant to the International Inspectorate access to all facilities of its chemical industry as required and in accordance with the stated purpose of the requested ad hoc check. The Technical Secretariat shall conclude specific framework agreements with each State Party.

#### NATIONAL REGISTERS

5. For the purposes of this Convention, "chemical industry" is defined as follows: (to be developed; definition to be based upon harmonized lists of the Customs Co-operation Council and possibly to be included in Article II).

6. On the basis of this definition each State Party shall submit to the Technical Secretariat a national register of its chemical industry. This national register, which shall be submitted according to an agreed format, shall include the following information:

- name of each facility and of the owner, company or enterprise operating the facility,
- exact location of each facility,
- main orientation of each facility,
- principal products of each facility.

(The question of production capacity thresholds for the inclusion of facilities in national registers needs further consideration).

7. Each State Party undertakes to update the national register annually.

#### INITIATION OF AD HOC CHECKS

8. A State Party shall be notified by the Technical Secretariat of the intended ad hoc check in a particular facility ... hours prior to the arrival of the inspection team.

9. The facility to be inspected for the purpose of verifying on a routine basis whether, at the time of the check, substances listed in Annexes [1], [2] and [3] to Article VI are being produced, shall be chosen by the Technical Secretariat in such a way as to preclude any prediction. As a rule, the facilities to be inspected shall be selected at random (to be developed).

10. The International Inspectorate shall not base its decision to carry out a specific ad hoc check on information submitted by other States Parties.

#### CONDUCT OF AD HOC CHECKS

11. The State Party concerned shall ensure that the inspection team can arrive at the chosen facility in the shortest possible time and in any case not later than ... hours after the decision to carry out the ad hoc check was notified to it. Such preparations shall also include provision for the expeditious transportation of the inspection team from the point of entry on the territory of the State Party to the facility (details to be worked out in the framework agreements mentioned in para. 5 above).

12. The receiving State Party shall provide the inspection team upon its arrival with the information requested in so far as this is necessary to enable it to carry out the ad hoc check effectively and expeditiously.

13. The State Party receiving an ad hoc check shall have the right to accompany the International Inspectors and observe all their verification activities at the facility.

14. The inspection team shall restrict its access to those areas of the facility in question, which are relevant (to be developed) to checking whether, at the time of the check, substances listed in the Annexes to Article VI are being produced.

15. In making the check the inspection team shall not examine what substances not listed in Annexes [1], [2] and [3] to Article VI are being produced. Nor shall it establish other facts beyond the purpose of the check as described in paragraph 2 of this Annex. The inspection team shall ensure this by choosing its inspection methods accordingly (to be developed).

16. All necessary analyses shall be performed on-site. There shall be no transfer of samples off-site. The inspection team shall only use such agreed instruments as may be necessary for the performance of its task. The State Party receiving the inspection has the right to inspect any instrument used by the International Inspectorate and have it tested in its presence.

17. Only if the production of substances listed in Annexes [1], [2] and [3] to Article VI and not declared for the facility is ascertained, shall further investigations be conducted to establish whether the production is in excess for the declaration thresholds.

#### SUBMISSION OF INSPECTOR'S REPORT

18. After each ad hoc check, the inspection team shall submit a report with its findings to the Technical Secretariat, which shall transmit a copy of this report to the State Party having received the ad hoc check. Information obtained during the inspection shall be treated as confidential (procedures to be developed).

#### FINANCING

19. The budget of the International Organization shall contain a special section on ad hoc checks. There shall be no transfers from this section to other sections of the budget or vice versa.





German Democratic Republic

Chemical Weapons Convention

Provision of Data relevant to the Chemical Weapons Convention

I.

The German Democratic Republic does not possess any chemical weapons and has no such weapons from other States stationed on its territory.

The German Democratic Republic is neither engaged in the development of chemical weapons nor has it facilities to produce them.

II.

Chemicals listed in Schedule (1) 1/ are produced, processed or consumed in quantities permitted under the present draft of a CW-Convention.

Chemicals listed in Schedule (2) 1/ are produced, processed or consumed in two facilities. The quantities are ranging from 10 to 2,000 kilogrammes.

Chemicals listed in Schedule (3) 1/ are produced, processed or consumed in 23 facilities. The quantities are between 1 and several 10,000 tons. 2/

There is, furthermore, a very limited use of chemicals listed in Schedules (2) and (3) in small quantities, inter alia, for laboratory purposes.

To put it in detail, the following chemicals are produced, processed or consumed:

Schedule (2)

N,N - bis (2-chlorethyl)- phosphoramid-chloride  
2,2-Diphenyl-2-hydroxyacetic acid

Schedule (3)

Phosphorus oxychloride  
Phosphorus trichloride  
Phosgene  
Dimethyl phosphite  
Sulphur dichloride  
Hydrogen cyanide

The compilation under II was made on the basis of information gathered with the support of competent organs and institutions. It reflects the situation in 1988. The compilation is of a preliminary nature and subject to further concretization following the conclusion of the Convention. It is aimed at facilitating its completion.

Notes

1/ As tentatively agreed in the Annexes to Article VI in CD/831.

2/ Facilities producing, processing or consuming chemicals both of Schedules (2) and (3) have been counted twice.

Annex

Table 1

Facilities of the German Democratic Republic producing, processing or consuming Schedule (2) chemicals in quantities specified in the working paper

| Schedule (2) chemicals                         | Facilities |              |
|--|------------|--------------|
|  | Producers  | Consumers */ |
| N,N-Dialkylphosphoramidic dihalides            | 1          | 1            |
| 2,2-Diphenyl-2-hydroxyacetic acid<br>(76-93-7) | 1          | 1            |

Table 2

Facilities of the German Democratic Republic producing, processing or consuming Schedule (3) chemicals in quantities specified in the working paper

| Schedule (3) chemicals              | Facilities |               |
|-------------------------------------|------------|---------------|
|                                     | Producers  | Consumers **/ |
| Phosgene (75-44-5)                  | 3          | 3             |
| Hydrogen cyanide (74-90-8)          | 2          | 6             |
| Phosphorus oxychloride (10025-87-3) | 2          | 9             |
| Phosphorus trichloride (7719-12-2)  | 1          | 7             |
| Dimethyl phosphite (868-85-9)       | 1          | 2             |
| Sulphur dichloride (19545-99-0)     | 1          | 2             |

\*/ Producers are included.

\*\*/ The greater number of facilities compared with the 23 listed in the working paper result from the fact that there are facilities which produce, process or consume more than one chemical and that facilities can be both producers and consumers.







# CONFERENCE ON DISARMAMENT

CD/872

12 September 1988

Original: ENGLISH

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LETTER DATED 12 SEPTEMBER 1988 FROM THE PERMANENT REPRESENTATIVE OF AUSTRALIA ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A STATEMENT MADE IN CANBERRA ON 9 SEPTEMBER 1988 BY THE AUSTRALIAN MINISTER FOR FOREIGN AFFAIRS AND TRADE, SENATOR GARETH EVANS, ON THE REPORTED USE OF CHEMICAL WEAPONS AGAINST KURDISH TRIBES IN NORTHERN IRAQ.

I attach a statement made in Canberra on 9 September 1988 by the Australian Minister for Foreign Affairs and Trade, Senator Gareth Evans, on the reported use of chemical weapons against Kurdish tribes in Northern Iraq. I would be grateful if this statement could be circulated as an official document of the Conference on Disarmament.

(Signed) RICHARD BUTLER AM,  
AMBASSADOR AND PERMANENT REPRESENTATIVE  
OF AUSTRALIA TO THE UNITED NATIONS FOR  
DISARMAMENT MATTERS,  
HEAD OF DELEGATION

CANBERRA

9 September 1988

CHEMICAL WEAPONS

STATEMENT BY AUSTRALIAN MINISTER  
FOR FOREIGN AFFAIRS AND TRADE

The Minister for Foreign Affairs and Trade, Senator Gareth Evans, said today that he was disturbed by persistent reports, including from refugees, that chemical weapons were being used against Kurdish tribes in Northern Iraq. Although conclusive evidence was hard to acquire because of the remoteness of the region and the nature of chemical weapons, the reports appeared to be credible and could not be ignored.

Senator Evans repeated the unequivocal condemnation of the Australian Government and people at the use, under any circumstances, of these horrifying weapons, particularly against civilian populations.

He called on the 40-member Conference on Disarmament in Geneva to redouble its efforts to conclude, as speedily as possible, a comprehensive and universal convention banning chemical weapons for all time and in all places.

The Prime Minister, Mr. Hawke, announced in New York in June this year that Australia would launch a regional initiative against chemical weapons. Australia has had initial discussions with some regional countries and a team of officials will visit ASEAN capitals in the near future to pursue this objective.

Senator Evans noted the co-operative attitude of the Australian chemical industry in the implementation of export controls to ensure that chemicals manufactured in or trans-shipped through Australia were not, even inadvertently, associated with the manufacture of chemical weapons.





LETTER DATED 2 SEPTEMBER 1988 ADDRESSED TO THE PRESIDENT OF THE  
CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE OF  
FINLAND TRANSMITTING A DOCUMENT ENTITLED "COMPUTER-AIDED  
TECHNIQUES FOR THE VERIFICATION OF CHEMICAL DISARMAMENT;  
E.1 VERIFICATION DATABASE" 1/

I have the honour to transmit to you a document entitled "Computer-aided  
Techniques for the Verification of Chemical Disarmament; E.1 Verification  
Database". This report represents a further contribution by Finland to the  
work of the Conference on Disarmament in the field of chemical weapons.

I would appreciate it if the report were to be circulated as an official  
document of the Conference on Disarmament.

Olli Mennander  
Ambassador  
Permanent Representative

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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.







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REPORT OF THE AD HOC COMMITTEE ON CHEMICAL WEAPONS  
TO THE CONFERENCE ON DISARMAMENT

I. INTRODUCTION

1. At its 438th plenary meeting on 9 February 1988, the Conference on Disarmament adopted the following decision on the re-establishment of the Ad Hoc Committee on Chemical Weapons (CD/805):

"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 resolution 42/37 A, 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 1988 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 1988 session.

The Conference further decides that the Ad Hoc Committee will report to the Conference on the progress of its work before the conclusion of the first part of its 1988 session, in view of the convening of the Third Special Session of the General Assembly devoted to disarmament."

II. ORGANIZATION OF WORK AND DOCUMENTATION

2. At its 438th plenary meeting on 9 February 1988, the Conference on Disarmament appointed Ambassador Bogumil Sujka of Poland 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.

3. The Ad Hoc Committee held 21 meetings from 12 February to 12 September 1988. 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, Denmark, Greece, Finland, Ireland, New Zealand, Norway, Portugal, Spain, Turkey, Switzerland and Zimbabwe.

5. In accordance with the above-mentioned decision (CD/805), the Ad Hoc Committee presented to the Conference a Special Report in view of the convening of the Third Special Session of the General Assembly devoted to disarmament (CD/831 and Corr.1) which contained an account of the work done by the Ad Hoc Committee since the Second Special Session of the General Assembly devoted to disarmament in 1982.

6. During the 1988 session, the following official documents dealing with chemical weapons were presented to the Conference on Disarmament.

- CD/789, dated 16 December 1987, entitled "Letter dated 16 December 1987 from the Representative of the Union of Soviet Socialist Republics addressed to the President of the Conference on Disarmament, transmitting a Working Paper entitled, 'Information on the presentation at the Shikhany Military Facility of standard chemical munitions and of technology for the destruction of chemical weapons at a mobile unit'".

- CD/790, dated 13 January 1988, entitled "Letter dated 12 January 1988 from the Representative of the Union of Soviet Socialist Republics, addressed to the President of the Conference on Disarmament, transmitting the text of the Statement by the Ministry of Foreign Affairs of the Union of Soviet Socialist Republics of 26 December 1987".

- CD/791 (also issued as CD/CW/WP.183), dated 25 January 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Verification of non-production": the case for ad hoc checks".

- CD/792 (also issued as CD/CW/WP.184), dated 25 January 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Super-toxic lethal chemicals (STLCs)".

- CD/795, dated 29 January 1988, entitled "Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 12-29 January 1988".

- CD/802 (also issued as CD/CW/WP.186), dated 5 February 1988), submitted by the delegation of the United States of America, entitled "Threshold for monitoring chemical activities not prohibited by a convention".

- CD/805, dated 9 February 1988, entitled "Decision on the Re-establishment of the Ad Hoc Committee on Chemical Weapons".

- CD/808 (also issued as CD/CW/WP.188), dated 19 February 1988, entitled, "Letter dated 18 February 1988 from the Representative of the Union of Soviet Socialist Republics, addressed to the President of the Conference on Disarmament, transmitting a document entitled 'Memorandum on multilateral data exchange in connection with the elaboration of a convention on the complete and general prohibition and destruction of chemical weapons (proposal by the USSR)'. "

- CD/809 (also issued as CD/CW/WP.189), dated 26 February 1988, submitted by the delegation of Argentina, entitled "Assistance for protection against chemical weapons".

- CD/812, dated 4 March 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical Weapons Convention: The Executive Council: composition, size, decision-making and other procedural matters".

- CD/821 (also issued as CD/CW/WP.196), dated 29 March 1988, submitted by the delegation of the Union of Soviet Socialist Republics, entitled "Letter dated 28 March 1988 from the representative of the Union of Soviet Socialist Republics to the President of the Conference on Disarmament transmitting a text of the Statement of the Ministry of Foreign Affairs of the USSR on 16 March 1988".

- CD/822 (also issued as CD/CW/WP.197), dated 29 March 1988, submitted by the delegations of the Federal Republic of Germany and Italy, entitled "The order of destruction of chemical weapons".

- CD/823, dated 31 March 1988, submitted by the delegation of Canada, entitled "Chemical Weapons Convention: Factors involved in determining verification inspectorate personnel and resource requirements".

- CD/826, dated 11 April 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Note from the Government of the Federal Republic of Germany evoked by the recent reports about the use of chemical weapons in the war between Iraq and Iran".

- CD/827, dated 12 April 1988, entitled "Letter dated 11 April 1988 from the Permanent Representative of the Islamic Republic of Iran addressed to the President of the Conference on Disarmament, containing the list of occasions of use of chemical weapons by Iraq against Iran from January 1981 to March 1988".

- CD/828, dated 12 April 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Provisions of data relevant to the chemical weapons convention".

- CD/830 (also issued as CD/CW/WP.201), dated 19 April 1988, entitled "Letter dated 18 April 1988 from the Representative of the United States of America addressed to the President of the Conference on Disarmament transmitting the text of a document entitled 'Information presented to the visiting Soviet delegation at the Tooele Army Depot, 18-21 November 1987'".

- CD/831 and Corr.1, dated 20 April 1988, entitled "Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament".

- CD/843, dated 25 July 1988, submitted by the delegation of Finland, entitled "Letter dated 21 July 1988 addressed to the President of the Conference on Disarmament from the Chargé d'Affaires a.i. of Finland transmitting a document entitled, 'Standard Operating Procedures for the Verification of Chemical Disarmament: D.1. A Proposal for Procedures Supporting the Reference Database'".

- CD/849 (also issued as CD/CW/WP.205), dated 28 July 1988, submitted by the delegation of the United States of America, entitled "Destruction of Chemical Weapons Production Facilities".

- CD/854, dated 8 August 1988, submitted by the delegation of Australia, entitled "Letter dated 8 August 1988 from the Permanent Representative of Australia addressed to the Secretary-General of the Conference on Disarmament transmitting a statement by Mr. Bill Hayden M.P., Australian Minister for Foreign Affairs and Trade, dated 5 August, on the subject of the use of chemical weapons in the Gulf War".

- CD/856, dated 17 August 1988, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Working paper: Past production of chemical warfare agents in the United Kingdom".

- CD/857, dated 12 August 1988, submitted by the delegation of Norway, entitled "Letter dated 12 August 1988 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: Development of Procedures for Verification of Alleged Use of Chemical Warfare Agents. Part VII'".

- CD/861, dated 22 August 1988, submitted by the delegation of Norway, entitled "Verification of alleged use of chemical weapons".

- CD/865, dated 30 August 1988, submitted by the delegation of Canada, entitled "Letter dated 29 August 1988, addressed to the Secretary-General of the Conference of Disarmament from the Deputy Representative of Canada to the Conference on Disarmament, transmitting Compendia comprising plenary statements and working papers relating to chemical weapons from the 1987 session of the Conference on Disarmament".

- CD/869 (also issued as CD/CW/WP.210), dated 6 September 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Verification of non-production of chemical weapons: ad hoc checks".

- CD/871 (also issued as CD/CW/WP.212), dated 12 September 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical weapons convention: provision of data relevant to the chemical weapons convention".

- CD/872, dated 12 September 1988, submitted by the delegation of Australia, entitled "Letter dated 12 September 1988 from the Permanent Representative of Australia, addressed to the Secretary-General of the Conference on Disarmament transmitting a statement made in Canberra on 9 September 1988 by the Australian Minister for Foreign Affairs and Trade, Senator Gareth Evans, on the reported use of chemical weapons against Kurdish tribes in Northern Iraq".

- CD/873, dated 12 September 1988, submitted by the delegation of Finland, entitled "Letter dated 2 September 1988 addressed to the President of the Conference on Disarmament from the Permanent Representative of Finland transmitting a document entitled 'Computer-aided techniques for the verification of chemical disarmament: E.1 verification database'".

7. In addition, the following Working Papers were presented to the Ad Hoc Committee:

- CD/CW/WP.182, dated 15 January 1988, submitted by the delegation of Mongolia, entitled "Order of destruction of chemical weapons stocks".

- CD/CW/WP.183 (also issued as CD/791), dated 25 January 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Verification of non-production: the case for ad hoc checks".

- CD/CW/WP.184 (also issued as CD/792), dated 25 January 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Super-toxic lethal chemicals (STLCs)".

- CD/CW/WP.185, dated 27 January 1988, entitled "Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 12-19 January 1988".

- CD/CW/WP.186 (also issued as CD/802), dated 5 February 1988, submitted by the delegation of the United States of America, entitled "Thresholds for monitoring chemical activities not prohibited by a convention".

- CD/CW/WP.187, dated 12 February 1988 entitled, "Working Paper presented by the Chairman: outline for the organization and programme of work of the Ad Hoc Committee on Chemical Weapons for the first part of the 1988 session".

- CD/CW/WP.188 (also issued as CD/808), dated 19 February 1988, entitled, "Letter dated 18 February 1988 from the Representative of the Union of Soviet Socialist Republics, addressed to the President of the Conference on Disarmament, transmitting a document entitled 'Memorandum on multilateral data exchange in connection with the elaboration of a convention on the complete and general prohibition and destruction of chemical weapons (proposal by the USSR) '".

- CD/CW/WP.189 (also issued as CD/809), dated 26 February 1988, submitted by the delegation of Argentina, entitled "Assistance for protection against chemical weapons".

- CD/CW/WP.190, dated 8 March 1988, submitted by the delegation of Italy, entitled "Convention on Chemical Weapons: some remarks on the toxicity index (LD 50) chosen as parameter to identify chemicals not listed in Schedules [1], [2] or [3]".

- CD/CW/WP.191, dated 11 March 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Some aspects of a challenge inspection régime".

- CD/CW/WP.192, dated 11 March 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Non-production: Annex to Article VI [1]".

- CD/CW/WP.193, dated 18 March 1988, submitted by the delegation of Austria, entitled "Article VI".

- CD/CW/WP.194, dated 18 March 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical weapons convention: provisions to ensure the confidentiality of information provided in connection with verification activities".

- CD/CW/WP.195, dated 22 March 1988, submitted by the delegation of the German Democratic Republic, entitled "Article VI: Régime for chemicals in Schedule [1]".

- CD/CW/WP.196 (also issued as CD/821), dated 29 March 1988, entitled "Letter dated 28 March 1988 from the representative of the Union of Soviet Socialist Republics to the President of the Conference on Disarmament transmitting a text of the Statement of the Ministry of Foreign Affairs of the USSR on 16 March 1988".

- CD/CW/WP.197 (also issued as CD/822), dated 29 March 1988, submitted by the delegations of the Federal Republic of Germany and Italy, entitled "The order of destruction of chemical weapons".

- CD/CW/WP.198, dated 5 April 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical Weapons Convention: on-site inspection on challenge - guidelines on the International Inspectorate".

- CD/CW/WP.199, dated 7 April 1988, submitted by the delegation of France, entitled "Security stocks: proposed amendments".

- CD/CW/WP.200, dated 15 April 1988, entitled "Draft Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament".

- CD/CW/WP.201 (also issued as CD/830), dated 19 April 1988, entitled "Letter dated 18 April 1988 from the Representative of the United States of America addressed to the President of the Conference on Disarmament transmitting the text of a document entitled 'Information presented to the visiting Soviet delegation at the Toelee Army Depot, 18-21 November 1987'".

- CD/CW/WP.202, dated 8 July 1988, entitled "Programme of work for the second part of the 1988 session".

- CD/CW/WP.203, dated 19 July 1988, submitted by the delegation of the Netherlands, entitled "Provision of data relevant to the chemical weapons convention".

- CD/CW/WP.204, dated 19 July 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Verification of non-production of chemical weapons: 'Sample Now, Analyse Later' (SNAL) system for the retrospective verification of non-production".

- CD/CW/WP.205 (also issued as CD/849), dated 28 July 1988, submitted by the delegation of the United States of America, entitled "Destruction of Chemical Weapons Production Facilities".

- CD/CW/WP.206, dated 10 August 1988, submitted by the delegation of the United Kingdom of Great Britain and Northern Ireland, entitled "Provision of data relevant to the Chemical Weapons Convention".

- CD/CW/WP.207, dated 16 August 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Provision of data relevant to the Chemical Weapons Convention".
- CD/CW/WP.208, dated 26 August 1988, submitted by the delegation of the German Democratic Republic, entitled "Outline of a manual for the activities of inspectors conducting inspections under Article IX of the Convention".
- CD/CW/WP.209, dated 1 September 1988, entitled "Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament".
- CD/CW/WP.210 (also issued as CD/869), dated 6 September 1988, submitted by the delegation of the Federal Republic of Germany, entitled "Verification of non-production of chemical weapons: ad hoc checks".
- CD/CW/WP.211, dated 7 September 1988, submitted by the delegation of the Union of Soviet Socialist Republics, entitled "Assessment of the French proposal on security stocks".
- CD/CW/WP.212 (also issued as CD/871), dated 12 September 1988, submitted by the delegation of the German Democratic Republic, entitled "Chemical weapons convention: provision of data relevant to the chemical weapons convention".
- CD/CW/WP.213, dated 12 September 1988, entitled: "Trial Inspections: Working Paper by the Chairman of the open-ended consultations".

### III. SUBSTANTIVE WORK DURING THE 1988 SESSION

8. 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, II and III of CD/795 (Report of the Ad Hoc Committee on Chemical Weapons on its work during the period 12-29 January 1988), Appendices I and II of CD/831 and Corr.1 (Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament), as well as other proposals presented by the Chairman of the Committee and by delegations.

9. The Committee agreed to deal with all the Articles of the draft convention as follows:

#### Cluster I:

- Article I: General provisions on scope
- Article II: Definitions and criteria

#### Cluster II:

- Article III: Declarations
- Article IV: Chemical weapons
- Article V: Chemical weapons production facilities
- Article X: Assistance

#### Cluster III:

- Article VI: Activities not prohibited by the convention
- Article XI: Economic and technological development

Cluster IV:

- Article VII: National implementation measures
- Article VIII: The Organization
- Article IX: Consultations, co-operation and fact-finding

Cluster V:

- Article XII: Relation to other international agreements
- Article XIII: Amendments
- Article XIV: Duration, withdrawal
- Article XV: Signature, ratification, entry into force
- Article XVI: Languages
- Preamble

To this end, it was agreed that Group A, under the Chairmanship of Mr. Andrej Cima of Czechoslovakia, would deal with Articles VI and XI; that Group B, under the Chairmanship of Mr. Pablo Macedo of Mexico, would deal with Articles I, II, III, IV, V and X; and that Group C, under the Chairmanship of Mr. Sadaaki Numata of Japan, would deal with Articles VII, VIII and IX. The Chairman of the Ad Hoc Committee conducted open-ended consultations aimed at the elaboration of Articles XII, XIII, XIV, XV XVI and the Preamble. Under the auspices of the Ad Hoc Committee, and at the request of the Ad Hoc Committee Chairman, Ambassador Rolf Ekéus of Sweden held informal, open-ended consultations to prepare the ground for multilateral trial inspections in the chemical industry.

## IV. CONCLUSIONS AND RECOMMENDATIONS

10. - Appendix I 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 enclosed as a basis for future work.

11. 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 utilised in the further negotiation and elaboration of the Convention;

(c) that the Committee will further examine in full the question of undiminished security during the destruction period, starting with the inter-sessional work in 1988. Such further examination should include the question of the proper place in the text of the Convention for provisions concerning this issue. To this end, some material relevant to the issue is reproduced in Appendix III, on the understanding that it does not constitute a precedent for future reports.

(d) that work on the Convention, under the Chairmanship of Ambassador B. Sujka of Poland, be resumed as follows:

(i) that, in preparation for the resumed session, open-ended consultations of the Ad Hoc Committee be held between 29 November and 15 December 1988 including, when necessary, meetings with full services;

(ii) that the Ad Hoc Committee hold a session of limited duration during the period 17 January to 3 February 1989.

(e) that the Ad Hoc Committee be re-established at the outset of the 1989 session and that the decision on Chairmanship and mandate of the Ad Hoc Committee be taken at the beginning of the reconvening of the Conference in 1989.

(f) that the Conference approve the following procedure for the preparation of reports on the chemical weapons negotiations:

Documents shall only be listed in reports to the United Nations General Assembly. No document shall be listed in more than one such report.

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Preliminary structure of a Convention on chemical weapons

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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.

---

1/ One delegation pointed out, in CD/CW/WP.199 of 7 April 1988, 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. In this context, it recalled its opinion that it is necessary to provide for the possibility, for the States which wish to do so, to establish, upon entry into force of the Convention and until the end of the 10-year period, a transitory régime organizing a limited security stock which would be destroyed during the last two years. The building up and the maintenance in good condition of this stock would be ensured by one single production facility attached to it, placed under international control, and destroyed during the ninth year.

2/ Other delegations stressed that, in their view, the continuation of the production of chemical weapons after the entry into force of the Convention would have preoccupying effects from the point of view both of the spread of chemical weapons and of the distortion of the very objective of the Convention. As to the disproportion between existing chemical weapons capabilities, the solution would be, in their view, the strict implementation of the Convention's provisions concerning the declarations, verification, continuous monitoring of stocks, their subsequent destruction and the cessation of the production of chemical weapons from the beginning.

3. Each State Party undertakes not to use chemical weapons. 1/ 2/
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. 3/
6. Each State Party undertakes to destroy chemical weapons production facilities which are in its possession or under its [jurisdiction or] control.

---

1/ 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.

2/ 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".

3/ 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 Consultative Committee 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

Toxic chemicals are divided into the following categories:]

(a) "super-toxic lethal chemicals", which have a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m<sup>3</sup> (by inhalation) when measured by an agreed method 1/ set forth in ... 2/

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

[(c) "other harmful chemicals", being 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" has a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m<sup>3</sup> (by inhalation).]

---

1/ 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.

2/ Recommended procedures for toxicity determinations are contained in pages 99-103 of this document.

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; 1/

4. "Precursor" means:

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

(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].

(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.] 2/

Key precursors are listed in ...

For the purpose of the relevant provisions in a Chemical Weapons Convention key precursors should be listed and subject to revisions according to [characteristics] [guidelines].

Chemicals which are not key precursors but are deemed to pose a [threat] [particular risk] with regard to a Chemical Weapons Convention should be included in a list.

---

1/ 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.

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

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

[a key 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):]

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 production facility provided under the Annex to Article VI [1] 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 Consultative Committee, 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 1/

The precise location, nature and general scope of activities of any facility and establishment 2/ on its territory or under its jurisdiction or under its control anywhere 3/ designed, constructed or used since [1.1.46] 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/ One delegation held the view that these provisions do not apply to the production facility attached to the security stockpile as defined in document CD/CW/WP.199.

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

3/ 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/

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,] 2/ 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.] 2/

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

---

1/ One delegation held the view that the provisions of this Article and its Annex shall apply without exception other than the rules relating to the security stock as defined in document CD/CW/WP.199.

2/ One delegation reserved its position on this question.

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

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

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

8. All locations where chemical weapons are [stored or] 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/

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. 2/

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.

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1/ One delegation held the view that the provisions of this Article shall apply to any and all chemical weapons production facilities, except the production facility assigned to the security stock as dealt with in document CD/CW/WP.199.

2/ 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].

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

(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/

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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/

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:

(a) Toxic chemicals and their precursors considered in the Annexes to Article VI [1], [2], [3] and [...], 3/ 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 those annexes:

Annex to Article VI [1] Schedule [1]: Super-Toxic Lethal Chemicals and [especially dangerous key precursors] [key components of chemical weapons systems].

Annex to Article VI [2] Schedule [2]: Key Precursors.

Annex to Article VI [3] Schedule [3]: Chemicals produced in large commercial quantities and which could be used for chemical weapons purposes.

Annex to Article VI [...]: Production of super-toxic lethal chemicals not listed in Schedules [1].

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1/ 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.

2/ 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.

3/ Some delegations consider that these chemicals should be dealt with in the Annex to Article VI [2] Schedule [2]. Other delegations consider that a separate Annex [4] is required. Until this issue is resolved, the designation Annex to Article VI [...] is used.

(b) The schedules of chemicals contained in the annexes may be revised. Modalities for revision are contained in the Annex to Article [VI] [0.]. 1/

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 the Annex to Article VI [1], [2], [3] and [...].

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

5. Each State Party undertakes to subject the chemicals and [facility] [facilities] under the Annex to Article VI [1] to the measures contained in that Annex.

6. Each State Party undertakes to subject the chemicals and facilities under the Annex to Article VI [2] and [...] 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.

7. Each State Party undertakes to subject the chemicals and facilities under the Annex to Article VI [3] 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. 2/ 3/

9. In conducting verification activities, the (Consultative Committee) shall:

(a) avoid undue interference in the State Party's peaceful chemical activities;

(b) take every precaution to protect confidential information coming to its knowledge in the implementation of the Convention; 2/ and

(c) require only the minimum amount of information and data necessary for the carrying out of its responsibilities under the Convention.

10. For the purpose of on-site verification, each State Party shall grant to the (Consultative Committee) access to facilities as required in the Annex to Article VI [1], [2], [3] and [...].

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1/ Furthermore, work was carried out on guidelines for considering inclusion of chemicals in Schedule [1]. The result of this work is enclosed in Appendix II to serve as a basis for future work.

2/ It was agreed that provisions to ensure the confidentiality of the information provided should be elaborated.

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

## VII. NATIONAL IMPLEMENTATION MEASURES

Each State Party to this Convention shall adopt any measures it considers necessary 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.

In order to implement these obligations, each State Party shall, according to its needs and specific conditions, designate or establish a national authority. 1/

Each State Party undertakes to inform the Consultative Committee concerning the national authority and other legislative and administrative measures taken to implement the Convention.

Each State Party undertakes to co-operate with the Consultative Committee in the exercise of all its functions and in particular to provide assistance to the Consultative Committee 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.

### National Technical Means 2/

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1/ It was suggested that guidelines for the functioning of the national authority for the implementation of the Convention be elaborated.

2/ It was suggested that no reference to National Technical Means is needed in a future Convention.

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 [Consultative Committee] [General Conference], the Executive Council and the Technical Secretariat.

B. [The Consultative Committee] [The General Conference]

(a) Composition, procedure and decision-making

1. The [Consultative Committee] [General Conference] shall be composed of all the States Parties to this Convention. Each State Party to the Convention shall have one representative in the [Consultative Committee] [General Conference], who may be accompanied by alternates and advisers.
2. The first session of the [Consultative Committee] [General Conference] shall be convened by the Depository at (venue) not later than 30 days after the entry into force of the Convention.
3. The [Consultative Committee] [General Conference] shall meet in regular sessions which should be held annually unless it decides otherwise. It shall meet in special sessions, as the [Consultative Committee] [General Conference] may decide, at the request of the Executive Council or at the request of any State Party supported by [8-10] 3/ [one third of] the States Parties. When necessary a special session shall be convened at short notice.

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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 a smaller number of States Parties supporting such a request could also be sufficient.

4. Sessions shall take place at the headquarters of the Organization unless the [Consultative Committee] [General Conference] decides otherwise.
5. The [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] shall constitute a quorum.
7. Each member of the [Consultative Committee] [General Conference] shall have one vote.
8. Decisions on questions of procedure, including decisions to convene special sessions of the [Consultative Committee] [General Conference], shall be taken by a simple majority of the members present and voting. Decisions on questions of substance shall be taken by a two-thirds majority of the members present and voting unless otherwise specifically provided for in the Convention. When the issue arises as to whether a question is one of substance or not, that question shall be treated as one of substance unless otherwise decided by the [Consultative Committee] [General Conference] by the majority required for decisions on questions of substance. 1/ 2/

(b) Powers and functions

1. The [Consultative Committee] [General Conference] shall be the [principal] [supreme] 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 2/ 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 [Consultative Committee] [General Conference] shall oversee the implementation of the Convention, and promote and [assess] 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.

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1/ It has also been proposed that decisions should be taken by consensus, except as specified elsewhere and, if a consensus were not possible within 24 hours, by a simple majority of the members present and voting. It has also been pointed out that there should be no differentiation between decisions on questions of procedure and those of substance.

2/ 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.

3. In addition, the powers and functions of the [Consultative Committee] [General Conference] shall be:

- (i) To consider and adopt at its regular sessions the report of the Organization, consider other reports 1/ 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; 3/
- (vii) to approve the rules of procedure of the Executive Council submitted by the latter;
- (viii) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention. 4/ 5/
- (ix) ... 6/

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1/ It has been proposed that reports should be sent to the United Nations.

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

3/ The option of candidates being proposed by the Executive Council and by States Parties for appointment should be discussed.

4/ It has been proposed that a Scientific Advisory Council be established as a subsidiary body.

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

6/ 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.

4. The [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] shall be convened with the same objective. 1/

[5. The Chairman of the [Consultative Committee] [General Conference] shall serve as non-voting Chairman of the Executive Council.]

### C. The Executive Council

#### (a) Composition, procedure and decision-making

(To be elaborated)

#### (b) Powers and functions

1. The Executive Council shall be the executive organ of the [Consultative Committee] [General Conference], 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 [Consultative Committee] [General Conference]. In so doing, it shall act in conformity with the recommendations, decisions and guidelines of the [Consultative Committee] [General Conference] and assure their continuous and proper implementation.

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;

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

(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 [Consultative Committee] [General Conference];

(e) consider and submit to the [Consultative Committee] [General Conference] the draft programme and budget of the Organization;

(f) consider and submit to the [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] may request;

(g) conclude agreements with States and international organizations on behalf of the Organization, subject to approval by the [Consultative Committee] [General Conference], 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 [Consultative Committee] [General Conference] for approval;

(iv) make arrangements for the sessions of the [Consultative Committee] [General Conference] including the preparation of a draft agenda.

3. The Executive Council may request the convening of a special session of the [Consultative Committee] [General Conference]. 2/

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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 [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] 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 [Consultative Committee] [General Conference] may request;
  - (h) provide administrative and technical support 2/ to the [Consultative Committee] [General Conference], the Executive Council and other subsidiary bodies.

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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 [Consultative Committee] [General Conference] [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 [Consultative Committee] [General Conference] and the Executive Council for the appointment of the staff and the organization and functioning of the Technical Secretariat. The paramount consideration in the employment of the staff and in the determination of the conditions of services shall be the necessity of securing the highest standards of efficiency, competence and integrity. Only citizens of States Parties shall serve as international inspectors or as other members of the professional and clerical staff. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible. Recruitment shall be guided by the principle that the staff shall be kept to a minimum necessary for the proper execution of its responsibilities.

6. 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 [Consultative Committee] [General Conference] and the Executive Council. In particular, subject to such responsibilities, they shall not disclose to any unauthorized persons any confidential information coming to their knowledge in the performance of their official duties. The Director-General shall establish a régime governing the handling and protection of confidential data by the Technical Secretariat.

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.

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1/ Because of considerations under way in some capitals, the question of how to approach these guidelines will be decided later. For the convenience of delegations Attachment (A) of the Report of the Co-ordinator for Cluster IV (CD/CW/WP.175) for the 1987 session, complemented by the work in Group C during the 1988 session, is included as Addendum to Appendix I.

2/ It has been proposed that the Director-General of the Technical Secretariat be appointed by the [Consultative Committee] [General Conference] upon the recommendation of the Secretary-General of the United Nations.

IX. CONSULTATIONS, CO-OPERATION AND FACT-FINDING 1/ 2/

1. States Parties shall consult and co-operate, directly among themselves, or through the Consultative Committee 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, whilst [taking every precaution in] protecting commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Convention.

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.

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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).

2/ One delegation held the view that the specific procedures of the challenge inspection régime applicable to the security stock shall be those defined in document CD/CW/WP.199.

(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 accordance with provisions in Article ... 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 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 Consultative Committee in accordance with Article ... In such a special session, the Consultative Committee 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/

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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.

X. ASSISTANCE 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, RATIFICATION, ENTRY INTO FORCE 2/

XVI. LANGUAGES 2/

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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 1988 session, work on this Article was undertaken. 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 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 to Article VI. 2/

(b) For a chemical not listed in the Schedules in the Annex to  
Article VI, 2/ 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.

2/ A view was expressed that in the context of Article IV,  
consideration should be given to the development of schedules applicable to  
chemical weapons declared under the Article.

(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.

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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.

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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 jeopardise 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 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 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 Technical Secretariat, 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;

- 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. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

### 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.

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1/ The further development of this entire section has been subject to consultations by the Chairman of Group B, 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/

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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 Consultative Committee.

(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 Technical Secretariat, in accordance with agreed procedures;
  - 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. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

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.

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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 <sup>1/</sup>
- 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
- 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];

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<sup>1/</sup> 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;

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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.

2. - 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 <sup>1/</sup>

<sup>1/</sup> 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;

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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.

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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/

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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 Consultative Committee. The resolution of any differences over methods of destruction should not delay the execution of other parts of the destruction plan that are acceptable.

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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 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 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.

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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. Information (to be designated) received during the inspection shall be treated as confidential (procedures to be developed).

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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 TO ARTICLE VI [O.]

MODALITIES FOR REVISION OF LISTS

1. The revisions envisaged would consist of additions to, deletions from, or shifts between the lists.
2. A revision could be proposed by a State Party. [If the Technical Secretariat has information which in its opinion may require a revision of the lists of chemicals, it should provide that information to the [Executive Council] which should communicate it to all States Parties.] A State Party may request the assistance of the Technical Secretariat in the substantiation of its proposal.
3. A proposal for revision should be submitted to [the Technical Secretariat] [the Executive Council] [the Depositary of the Convention].
4. [The Technical Secretariat] [The Executive Council] [The Depositary of the Convention], upon receipt of a proposal for revision, will be responsible for informing States Parties about it.
5. The proponent should substantiate its proposal with the necessary information. Any State Party and, as requested, the Technical Secretariat, could also provide relevant information for the evaluation of the proposal.
6. Technical evaluations of a proposal may be made by the Organization, 1/ [the Executive Council], any State Party [and the Technical Secretariat].
7. The decision on a proposal should be taken by the Organization 1/ [the Consultative Committee] by [a 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 should be reviewed by the [Consultative Committee] at its next meeting.] [If urgent consideration is requested by five or more Parties, a special meeting of the Consultative Committee should be promptly convened.]
8. The revision procedure should be concluded within [60 days] after the receipt of the proposal. Once a decision is taken, it should enter into force after a period of [30 days].
9. The Technical Secretariat should provide assistance to any State Party, when requested, in evaluating an unlisted chemical. This assistance should be confidential [unless it is established in the evaluation that the chemical has chemical weapon properties].

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1/ The question of which organ(s) of the Organization should be entrusted with this task should be considered further.

ANNEX TO ARTICLE VI [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 or protective purposes, 1/ and
  - (ii) the types and quantities of chemicals are strictly limited to those which can be justified for research, medical or protective purpose, and
  - (iii) the aggregate amount of such chemicals at any given time for [permitted] [protective] purposes is equal to or less than one metric tonne, and
  - (iv) the aggregate amount for [permitted] [protective] 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 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 Consultative Committee.
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.

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1/ A view was expressed that for consistency in this Annex, "permitted purposes" should be used instead of "research, medical or protective purposes". The view was also expressed that use of the term "permitted" would broaden considerably the sphere of use of super-toxic lethal chemicals which could be used as chemical weapons and that this was very undesirable.

## SINGLE SMALL-SCALE PRODUCTION FACILITY

Each State Party which produces chemicals in Schedule [1] for [permitted] [protective] purposes shall carry out the production at a single small-scale facility, the capacity of which shall not exceed [one] metric tonne per year, as measured by the method established in [ ] . 1/

### I. Declarations

#### A. Initial declarations

Each State Party which plans to operate such a facility shall provide the Consultative Committee 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.

#### 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] or [3] used for production of chemicals in Schedule [1];
- (iv) the quantity consumed at the facility and the purpose(s) of the consumption;

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1/ The view was expressed that the single small-scale production facility should be State-owned.

(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 production 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 capacity will not permit the production, on an annual basis, of quantities [significantly] above one metric tonne, 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 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/

#### OTHER FACILITIES

[Facilities which synthesize, acquire or use chemicals in Schedule [1] for research or medical purposes shall be approved by the State Party. Synthesis at each such facility for research and medical purposes shall be limited per annum to a total maximum of [..]g and to [..]g of any one chemical on the Schedule.]

[Facilities which acquire or use chemicals in Schedule [1] for permitted purposes shall be approved by the State Party. Each transfer from the single small-scale production facility to such facilities shall be notified to the Consultative Committee by inclusion in the annual data reporting, with an indication of the chemical or chemicals involved, the amount transferred and the purpose of the transfer.]

#### I. Declarations

##### A. Initial declarations

The location of the facilities approved by the State Party shall be provided to the Consultative Committee.

##### B. Advance notifications

##### C. Annual declarations

#### II. Verification

Facilities shall be monitored through annual data reporting to the Consultative Committee. The following information shall be included: (to be developed)

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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.

ANNEX TO ARTICLE VI [1]  
SCHEDULE [1]

PROVISIONAL LIST 1/

1. O-Alkyl alkylphosphonofluoridates  
e.g. Sarin: O-isopropyl methylphosphonofluoridate (107-44-8)  
Soman: O-pinacolyl methylphosphonofluoridate (96-64-0)
2. O-Alkyl N,N-dialkylphosphoramidocyanidates  
e.g. Tabun: O-ethyl N,N-dimethylphosphoramidocyanidate (77-81-6)
3. O-Alkyl S-2-dialkylaminoethylalkylphosphonothiolates  
e.g. VX: O-ethyl S-2-diisopropylaminoethylmethylphosphonothiolate (50782-69-9)
4. Sulphur mustards:  
e.g. Mustard gas (H): bis(2-chloroethyl)sulphide (505-60-2)  
Sesquimustard (Q): 1,2-bis(2-chloroethylthio)ethane (3563-36-8)  
O-Mustard (T): bis(2-chloroethylthioethyl)ether (63918-89-8)
5. Lewisites  
Lewisite 1: 2-chlorovinylchloroarsine (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) (6581-06-2)
8. Alkylphosphonyldifluorides  
e.g. DF (676-99-3)
9. Ethyl O-2-diisopropylaminoethyl alkylphosphonites  
e.g. QL (57856-11-8)

1/ Some of the chemicals on the Schedules exist in more than one stereoisomeric form. It is proposed that, where assigned, the Chemical Abstracts Service Registry Numbers be stated for each of them.

To be discussed further

1. Saxitoxin
2. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol)
3. CS
4. CR
5. Chloro Soman and Chloro Sarin
6. Sulphur Mustards: to include compounds listed below.

2-chloroethylchloromethylsulphide

bis(2-chloroethyl)sulphone

bis(2-chloroethylthio)methane

1,3-bis(2-chloroethylthio)-n-propane

1,4-bis(2-chloroethylthio)-n-butane

ANNEX TO ARTICLE VI [2]

KEY PRECURSOR CHEMICALS

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 per annum of the chemicals listed in Schedule [2] or which produced 1/ at any time since ... a chemical in Schedule [2] for chemical weapons purposes: 2/

Key Precursor 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. 3/
- (iii) The purpose(s) for which the key precursor 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)
  - (c) export of a key precursor (specify which country)
  - (d) other.

---

1/ A view was expressed that the question of a quantitative threshold 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/ Whether the total amount is to be expressed as an exact figure or within a range is to be discussed.

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 key precursor 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 key precursor chemicals:
  - (a) production
  - (b) processing with conversion into another chemical
  - (c) processing without chemical conversion
  - (d) other - specify.
- (viii) Whether at any time during the previous calendar year declared key precursors were stored on-site in quantities greater than [ ] [tonnes].

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1/ One delegation suggested that, in the case of a multi-purpose facility currently producing key precursor 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.

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 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.

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1/ One delegation suggested that the number of such inspections could be from 1 to 5 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 "military 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/

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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].

- (i) areas where feed chemicals (reactants) are delivered and/or stored;
- (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 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 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 Technical Secretariat, in accordance with agreed procedures; 1/
- afford the opportunity to the Host State Party to be present when samples are analysed; 1/
- ensure, in accordance with procedures (to be developed), that samples transported, stored and processed are not tampered with; 1/
- 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. Information received during the inspection shall be treated as confidential (procedures to be developed).

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.

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1/ The view was expressed that all questions related to analysis off-site required further discussion.

ANNEX TO ARTICLE VI [2]

SCHEDULE [2]

PROVISIONAL LIST

1. Chemicals containing one P-methyl, P-ethyl, or P-propyl (normal or iso) bond
2. N,N-Dialkylphosphoramidic dihalides
3. Dialkyl N,N-dialkylphosphoramidates
4. Arsenic trichloride (7784-34-1)
5. 2,2-Diphenyl-2-hydroxyacetic acid (76-93-7)
6. Quinuclidin-3-ol (1619-34-7)
7. N,N-Diisopropylaminoethyl-2-chloride (96-79-7)
8. N,N-Diisopropylaminoethan-2-ol (96-80-0)
9. N,N-Diisopropylaminoethane-2-thiol (5842-07-9)

---

TO BE DISCUSSED FURTHER

(1) The following compounds:

Bis(2-hydroxyethyl)sulphide (thiodiglycol)

3,3-Dimethylbutan-2-ol (pinacolyl alcohol)

(2) Expanded groups for compounds 5, 6, 7, 8 and 9, as follows:

(No. 5): 2-phenyl-2-(phenyl, cyclohexyl, cyclopentyl or cyclobutyl)-2-hydroxyacetic acids and their methyl, ethyl, n-propyl and iso-propyl esters

(No. 6): 3- or 4-hydroxypiperidine and their [derivatives] and [analogs]

(Nos. 7,8,9): N,N-Disubstituted aminoethyl-2-halides  
N,N-Disubstituted aminoethan-2-ols  
N,N-Disubstituted aminoethane-2-thiols

ANNEX TO ARTICLE VI [3]

Chemicals which are produced in large commercial quantities and which could be used for chemical weapons purposes

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.

ANNEX TO ARTICLE VI [3]  
SCHEDULE [3]

|   |              |
|---|--------------|
| Phosgene  | (75-44-5)    |
| Cyanogen chloride   | (506-77-4)   |
| Hydrogen cyanide  | (74-90-8)    |
| Trichloronitromethane<br>(chloropicrin)                       | (76-06-2)    |
| Phosphorus oxychloride  | (10025-87-3) |
| Phosphorus trichloride  | (7719-12-2)  |
| Di- and Trimethyl/Ethyl Esters<br>of Phosphorus [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) |

ANNEX TO ARTICLE VI [...] 1/

Production of super-toxic lethal chemicals not listed in Schedule [1]

The provisions of this Annex cover:

- chemicals with an LD<sub>50</sub> equal to or less than 0.5 mg per kg bodyweight 2/ or an LCt<sub>50</sub> equal to or less than 2,000 mg-min/m<sup>3</sup>;
- facilities which:
  - (a) produce or process more than [10] [100] [1,000] kg 3/ per annum 4/ of any such chemical; 5/
  - [(b) have a production capacity 6/ for any such chemical exceeding 1,000 kg 7/ per annum 8/].

---

1/ Some delegations consider that the chemicals in this Annex should be dealt with in the Annex to Article VI [2] Schedule [2]. Other delegations consider that a separate Annex [4] is required.

2/ It is understood that further discussion is needed with regard to chemicals with a somewhat lower toxicity. In this context various ideas were put forward, i.a.:

- that chemicals falling within a deviation-range of 10-20 per cent could be considered;
- that chemicals with an LD<sub>50</sub> close to 0.5 mg/kg bodyweight could be included as exceptions;
- that the modalities for revisions of lists could be made use of to take care of possible concerns in this regard.

3/ Some delegations felt that the thresholds for production and production capacity should correspond to militarily significant quantities.

4/ The question of production or processing not occurring annually requires further discussion.

5/ Some delegations expressed the view that additional criteria of suitability for chemical weapons purposes should be added.

6/ How to define production capacity remains to be agreed upon. In this context reference was made to the proposal contained in CD/CW/WP.171, as well as the report contained in Appendix II to this document.

7/ It is understood that the quantitative value of the threshold for production capacity remains to be discussed.

8/ One delegation expressed the view that the question of production capacities should be considered in accordance with the relevant provisions in the Annex to Article VI, Schedules [2] and [3] (cf. CD/CW/WP.167, pp. 62, 68).

DECLARATIONS 1/

The Initial and Annual Declarations to be provided by a State Party under Article VI shall include:

1. Aggregate national data on the production or processing of each chemical [listed in] [covered by] this Annex, 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 or processed more than [10] [100] [1,000] kg 3/ of any chemical [listed in] [covered by] this Annex.

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, processed, imported and exported in the previous calendar year; 4/ 5/
- (iii) The purpose(s) for which the chemical(s) are produced or processed:
  - (a) conversion on-site (specify product type);
  - (b) sale or transfer to other domestic industry (specify final product type);
  - (c) export of a chemical (specify which country).

Facility

- (i) The name of the facility and of the owner, company, or enterprise operating the facility;

---

1/ The information to be reported on chemicals will depend largely on what aims are eventually agreed for verification under paragraph 4 of this Annex.

2/ A proposal for a list of chemicals, to be included in the Convention under this category, is contained in CD/792.

3/ Some delegations felt that the thresholds for production and production capacity 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.

5/ One delegation expressed the view that aggregate national data on the production of any such chemical should also be provided.

- (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 declared 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. Relevant information should be provided, when applicable.];
- (vi) The production capacity for the declared chemical(s); 1/
- (vii) Which of the following activities are performed with regard to chemicals;
  - (a) production;
  - (b) processing with conversion into another chemical;
  - (c) processing without chemical conversion;
  - (d) other - specify;
- (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 anticipate, during the coming calendar year, to produce or process more than ... of any chemical [listed in] [covered by] this Annex. 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, the total quantity anticipated 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 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).

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1/ How to define production capacity remains to be agreed upon.

VERIFICATION 1/

Aim 2/

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];
- (ii) The quantities of declared chemicals produced or processed are consistent with needs for purposes not prohibited by the Chemical Weapons Convention;
- (iii) The declared chemicals are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

Obligation and frequency

- 5. (i) Each facility notified to the Technical Secretariat shall be liable to receive an initial visit from International Inspectors, promptly after the State becomes a Party to the Convention.
- (ii) The purpose of the initial visit shall be to verify information provided concerning the facility to be inspected and to obtain any additional information, [including on the capacity of the facility, needed for planning] [to determine whether systematic on-site verification on a routine basis is necessary, and, if so, to plan] future verification activities at the facility, including inspection visits and use of on-site instruments.
- (iii) Each facility notified to the Technical Secretariat under this Annex shall be subject to systematic international on-site verification on a routine basis.
- (iv) 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 including its capacity and the nature of the activities carried out there. 3/ The guidelines to be used shall include: (to be developed).

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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/ This aim requires further consideration. Some delegations have raised in this context the issue of suitability for chemical weapons purposes.

3/ One delegation suggested that the number of such inspections might be one to three per year.

### 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.

### Host State Party

7. 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.

### Agreement on Inspection Procedures

8. 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] [those facilities which are determined by the Technical Secretariat on the basis of the initial visit of International Inspectors to warrant systematic international on-site verification on a routine basis]. The agreement shall provide for the detailed subsidiary arrangements which shall govern inspections at each facility.

9. 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.

### Verification Inspections

10. The areas of a facility to be inspected under subsidiary arrangements, may, inter alia, include:

- (i) Areas where feed chemicals (reactants) are delivered and/or stored;
- (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;
- (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.

11. (a) 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.

(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 arrangement:

- 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 Technical Secretariat, in accordance with agreed procedures;
- afford the opportunity to the Host State Party to be present when samples are analysed;
- ensure, in accordance with procedures (to be developed), 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 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.

12. 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

13. 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. Information received during the inspection shall be treated as confidential (procedures to be developed).

14. 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.

OTHER DOCUMENTS

I.

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 1st meeting of the Consultative Committee, the Depository 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 Commission shall consist of the representatives designated by the States which have signed the Convention.
3. The Commission shall be convened at [...] and remain in existence until the Convention comes into force and thereafter until the Consultative Committee 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 Commission shall be made by [consensus] [a two-thirds majority].
6. The Commission shall
  - (a) elect its own officers, adopt its own rules of procedures, meet as often as necessary and establish such committees as it deems useful;
  - (b) appoint an executive secretary and establish a provisional technical secretariat with units in charge of preparatory work concerning the main activities to be carried out by the Technical Secretariat created under the Convention: declarations and data; inspectorate; evaluation of accounts and reports; agreements and negotiations; personnel, qualifications and training; development of procedures and instruments; technical support; finance and administration;
  - (c) make arrangements for the first session of the Consultative Committee, including the preparation of an agenda and draft rules of procedure;

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1/ Provisions on the Commission could be contained in a resolution of the United Nations General Assembly commending the Convention or in an appropriate document associated with the Convention.

(d) make studies, reports and recommendations for the first session of the Consultative Committee and the 1st meeting of the Executive Council on subjects requiring immediate attention after the entry into force of the Convention, including the programme of work and the budget for the first year of activities of the Consultative Committee, the location of the permanent offices of the Organization, technical problems relevant to activities connected with the implementation of the Convention, establishment of the Technical Secretariat and of its staff and financial regulations.

7. The Commission shall report on its activities to the 1st meeting of the Consultative Committee.

## II.

### PROCEDURES FOR TOXICITY DETERMINATIONS 1/

In March 1982 consultations were held, involving 32 experts from 25 countries, i.a. on toxicity determination.

As a result of the discussions, the participants in the consultations unanimously agreed to recommend standardized operating procedures for acute subcutaneous toxicity determinations and for acute inhalation toxicity determinations. These unanimously agreed recommendations were submitted as Annexes III and IV to document CD/CW/WP.30.

It is understood that further work may be needed to take into account technical developments since 1982. In order to facilitate this work Annexes III and IV to CD/CW/WP.30 are reproduced below.

#### Recommended standardized operating procedures for acute subcutaneous toxicity determinations

##### 1. Introduction

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

- (i) super-toxic lethal chemicals;
- (ii) other lethal chemicals;
- (iii) other harmful chemicals.

Lethality limits in terms of LD<sub>50</sub> 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

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

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 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 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 airsteam through a solution containing the material (e.g. bubbling chamber);
- (iii) by diffusion of the agent through a suitable material (e.g. diffusion chamber).

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

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

- (i) the rate of air flow (preferably continuously);
- (ii) the actual concentration of the test substance during the exposed period;
- (iii) temperature and humidity.

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

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

#### 4. Data reporting

A test report should include the following information:

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

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

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

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

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

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;

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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. Inspectors shall only request the information and data which are necessary to fulfil their mandate. States Parties shall furnish such information. Inspectors 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. They shall abide by relevant regulations established within the Technical Secretariat for the protection of confidential information. They shall remain bound by these relevant regulations after they have left their functions as International Inspectors.
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. 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.

6. 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 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. For inspections under article IX, the guidelines set out in sections II and III shall apply, as appropriate, unless otherwise provided for 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.

- (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/

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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.

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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).

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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

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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/

APPENDIX I

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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.



1. The purpose of this Convention is to prohibit the development, production, stockpiling, acquisition, retention, use, or transfer of chemical weapons. It also provides for the destruction of existing chemical weapons and the prohibition of their use.

2. The Convention shall be open for signature by all States. It shall be open for accession by any State which has not signed it.

3. The Convention shall be subject to ratification by States which have signed it and to accession by States which have not signed it.

4. The Convention shall enter into force on the day after the expiration of one year after the date of deposit of the fifth instrument of ratification or accession.

5. The Convention shall be subject to amendment. Any amendment shall be adopted by a two-thirds majority of the States Parties at a meeting of the States Parties convened for this purpose by the Secretary-General of the United Nations.

6. The Convention shall be subject to revision. Any revision shall be adopted by a two-thirds majority of the States Parties at a meeting of the States Parties convened for this purpose by the Secretary-General of the United Nations.

7. The Convention shall be subject to interpretation. Any interpretation shall be adopted by a two-thirds majority of the States Parties at a meeting of the States Parties convened for this purpose by the Secretary-General of the United Nations.

8. The Convention shall be subject to dispute resolution. Any dispute between two or more States Parties concerning the interpretation, application, or implementation of the Convention shall be referred to the International Court of Justice for settlement.

9. The Convention shall be subject to withdrawal. Any State Party may withdraw from the Convention at any time by giving notice to the Secretary-General of the United Nations.

10. The Convention shall be subject to denunciation. Any State Party may denounce the Convention at any time by giving notice to the Secretary-General of the United Nations.

APPENDIX II

Category I: Chemical weapons on the basis of Schedule I (1) chemicals

Category II: Chemical weapons on the basis of all other chemicals

Category III: Unfilled munitions and devices, and equipment specifically designed for use directly in connection with equipment of Category I or II

1. The Order of destruction shall be based on the principle of leveling out the stockpiles of chemical weapons of State Parties, while observing the principle of parity (unbalanced) security. (The level of such stockpiles shall be agreed upon.)

2. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

3. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

4. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

5. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

6. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

7. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

8. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

9. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

10. The States Parties shall, in accordance with the Convention, and shall ensure that the destruction of chemical weapons is carried out in a safe and secure manner. The States Parties shall also ensure that the destruction of chemical weapons is carried out in a manner which is consistent with the Convention.

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 [equal] [undiminished] security. (The level of such stockpiles shall be agreed upon.)
6. Each State Party possessing chemical weapons
  - shall start the destruction of Category 1 chemical weapons not later than one year after it becomes a Party to the Convention, and shall complete it not later than 10 years after the entry into force of the Convention; the comparison factor for such weapons shall be agent tons, i.e. the aggregate weight of the chemicals within such Category,

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1/ Some delegations drew attention to another proposal which suggests a specific phased approach, including a special phase for advance destruction by the largest chemical weapons owners until midway of the destruction period. This proposal is contained in CD/822 of 29 March 1988.

2/ The view was expressed that possible additional provisions applicable to States possessing chemical weapons but which ratify the Convention at a later stage would need to be discussed. The view was also expressed that the Convention should include from the beginning all States possessing chemical weapons.

- 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 [four] [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           |                   |                   |                   |
| 6           | (TO BE DEVELOPED) |                   |                   |
| 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.

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 have 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.

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1/ The basis and modalities for the application and revision of the guidelines are to be developed.

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.

The order in which these factors are listed does not indicate any priority.

POSSIBLE FACTORS IDENTIFIED TO DETERMINE THE NUMBER, INTENSITY,  
DURATION, TIMING AND MODE OF INSPECTIONS OF FACILITIES HANDLING  
SCHEDULE [2] CHEMICALS 1/

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.

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1/ The order in which these factors are listed does not indicate any priority.

## REPORT ON HOW TO DEFINE "PRODUCTION CAPACITY"

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 the Annex to Article VI [2], paragraph 2 in the Annex to Article VI [3], paragraph 1 (iv), and in the case of "Possible factors identified to determine ... Schedule [2] chemicals", contained in CD/782, Appendix II, p. 12.

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 =

=  $\frac{\text{quantity produced}}{\text{hours of production}}$  x constant x no. of units

or in the case of dedicated units not yet in operation

=  $\frac{\text{nameplate or design capacity}}{\text{hours of planned operation}}$  x constant x no. of units

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 remains 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 [...], 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 the Annex to Article VI [1] 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.

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:

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:

$$\text{Production capacity (tons/year)} = \frac{\text{des. cap.}}{\text{pl. op. hours}} \times \text{op. factor} \times \text{no. of units}$$

where:

- des. cap. = nameplate or design capacity of one unit (tons/year)
- pl. op. hours = hours of planned operation to achieve the design capacity
- op. factor = operational factor (hours)

The operational factor should take into account the various facility-specific and process-specific factors which would affect the actual practical production capacity, and could e.g. be determined during the initial visit. A need might exist for a provisional value of the operational factor to be applied before the initial visit has taken place.

REPORT ON INSTRUMENTAL MONITORING OF NON-PRODUCTION IN FACILITIES  
DECLARED UNDER THE ANNEX TO ARTICLE VI [2]

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.

MODELS FOR AGREEMENTS

A. MODEL FOR AN AGREEMENT RELATING TO FACILITIES PRODUCING,  
PROCESSING ,OR CONSUMING CHEMICALS LISTED IN SCHEDULE [2] 1/

1. Identification of the facility

- (a) Facility identification code
- (b) Name of the facility
- (c) Owner(s) of the facility
- (d) Name of the company or enterprise operating the facility
- (e) Exact location of the facility
  - . 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

(f) Determination of the area(s) and place(s)/site(s) to which inspectors shall have access.

2. Information on the facility

This agreement is based on the design information obtained during the initial visit on [date of visit]. Design information should include:

- (a) Data on the production process (type of process: e.g., continuous or batch; type of equipment; the technology employed; process engineering particulars)
- (b) Data on processing with conversion into another chemical (description of the conversion process, process engineering particulars and end-product)
- (c) Data on processing without chemical conversion (process engineering particulars, description of the process and the end-product, concentration in the end-product)
- (d) Data on waste treatment (disposal and/or storage, waste treatment technology, recycling)

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1/ This paper relates to agreements which have commonly been named "facility attachments". Further work is needed on this issue.

- (e) Data on safety and health measures at the facility
- (f) Data on clean-up procedures and general overhauls
- (g) Data on feedstocks used in the production or processing of declared chemicals (type and capacity of storage)
- (h) Maps and plans of the facility, including data on infrastructure for transportation (site maps showing, for example, all buildings and functions, pipework, roads, fences, mains electricity, water and gas points, and diagrams indicating the relevant material flow at the designated facility).

### 2.1. Storage of information

Designation of information, provided about the facility under paragraph 2, which shall be kept by the Technical Secretariat under lock and key at the facility. (In the event of unresolved ambiguities, the Organization 1/ shall have the right to study such information.)

### 3. Number and modalities of inspections

After the initial visit, the number and modalities of inspections shall be decided by the Technical Secretariat on the basis of guidelines (compare CD/CW/WP.167, page 63, subparagraph 5.ii. and CD/CW/WP.167, Appendix II, page 3).

### 4. Verification measures and identification of the specific area(s) and place(s) of a facility to be inspected

(a) Identification of the relationship between feedstocks and the quantity of end-products

(b) Identification of key points for measurement (KMP) and sample-taking (STP)

(c) Identification of methods for continuous monitoring and surveillance, e.g.

- . key points for the application of monitoring and surveillance measures
- . installed instruments and devices, seals and markers, methods to check the proper functioning of those instruments, servicing of installed instruments
- . activities to be undertaken by the State Party concerned with a view to providing the conditions necessary for the installation and proper functioning of the devices

(d) Certification of relevant losses within the production process and their implications for key measurement points (KMP)

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1/ The question of which organ(s) of the Organization should be entrusted with this task should be considered further.

5. Inspection activities

5.1. Mode of routine inspection

To be developed on the basis of the initial visit.

5.2. Indication of the scope of the inspection effort in agreed areas under ordinary circumstances

Access to the area to be inspected, including all key points. Activities may comprise:

- (a) Examination of relevant records
- (b) Identification of relevant plant equipment
- (c) Identification and validation of measuring equipment (examination and calibration of measuring equipment; verification of measuring systems using, as appropriate, independent standards)
- (d) Taking of analytical samples
- (e) Verification of chemical inventory records
  - . verification of the operator's inventory-taking for completeness and accuracy
  - . verification of the quantities of feedstocks
- (f) Observation of operations relating to movement of chemical substances in the plant
- (g) Installation, servicing and review of surveillance and monitoring instruments

(h) .

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5.3. Specific arrangements for the use of special equipment

As the need arises, specific arrangements for the use of special equipment, as requested by inspectors.

6. Provisions governing sample-taking, on-site analyses of samples and on-site analysis equipment

- (a) Sample-taking (e.g., standardized procedures)
- (b) On-site analyses (e.g., provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)
- (c) Duplicates and additional samples

7. Records

7.1. Type of records

The records to be examined shall be determined after the initial visit and shall include the following:

- (a) Accounting records (for example, discards, retained wastes, shipments of end-products, receipts/shipments)
- (b) Operating records

Operating records used to establish the quantity, quality and composition of the end-product. These may include:

- . Information on any accident that resulted in a loss/gain of material
- . Information on dissolution, evaporation, etc.

(c) Calibration records

Information on the functioning of analytical/monitoring equipment.

7.2. Location and language of records

To be determined during the initial visit.

7.3. Access to records

To be determined after the initial visit.

7.4. Retention period of records

To be determined on the basis of the initial visit.

8. Services to be provided by the facility

Point of contact for each type of service, e.g.

- . operator assistance
- . medical and health services.

9. Specific facility health and safety rules and regulations to be observed by inspectors

10. Changes, revision and updating of advance information to be provided on the facility

(To be announced in reference to the paragraph on the design information obtained during the initial visit)

11. Interpretation services

B. MODEL FOR AN AGREEMENT RELATING TO SINGLE  
SMALL-SCALE PRODUCTION FACILITIES 1/

Proposal by the Co-ordinator of Cluster IV for the 1987 session

1. Information on the single small-scale production 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)

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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 <sup>1/</sup>

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

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<sup>1/</sup> The question of charges for the services needs to be discussed.

- (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;

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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 <sup>1/</sup>

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

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<sup>1/</sup> The question of charges for the services needs to be discussed.

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, (paragraphs 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 (paragraphs 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.

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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.

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 ...].

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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.

(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/

17. 3/ 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].

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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.

3/ The question of the procedure and decision-making of the Executive Council in connection with this paragraph needs to be considered.

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 [Consultative Committee] [General Conference], which should decide on sanctions including the withdrawal of rights and privileges]. 1/ 2/ [The [Executive Council or the] [Consultative Committee] [General Conference] shall, where appropriate, bring the matter to the attention of the Security Council of the United Nations].

14. The requesting State shall promptly notify the members of the Executive Council through the Director-General of the Technical Secretariat of the results of the assessment of the request and the views of the requesting State and of other States. The Director-General of the Technical Secretariat shall provide to States Parties a report on the assessment of the request and the views of the requesting State and of other States. The Executive Council shall, as it deems necessary, consider the request and decide on the appropriate action. The Executive Council may recommend that the Convention be amended in order to deal with the situation. The Executive Council may also recommend that the Convention be amended in order to deal with the situation. The Executive Council may also recommend that the Convention be amended in order to deal with the situation.

- 1/ 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.
- 2/ 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.

Article X: Assistance

1. Each State Party has the right to request assistance [for protection against chemical weapons] through the Executive Council:

- (a) in case it considers that chemical weapons have been used against it;
- (b) in case it has serious reasons to believe that there is a threat of use of chemical weapons against it;

[(c) in case it feels that its security has been, or is likely to be, threatened as a result of any other violation of the Convention by another State Party or of the development, production, acquisition, stockpiling possession of chemical weapons by a State not Party to the Convention or of the transfer of chemical weapons to any such State.]

2. Such a request shall be substantiated by relevant information supporting its validity.

3. The Technical Secretariat shall promptly inform all States Parties about the request.

4. The Executive Council shall: 1/

(a) meet [immediately] to evaluate the request in the light of the information provided; 2/

(b) if so deemed necessary, instruct the Technical Secretariat, within ... hours, to initiate an investigation of the facts related to the alleged use or threat of use and, when applicable, to establish an inventory of the specific assistance needed; [in appropriate cases, the Executive Council may direct that the investigation should include on-site inspection;] if an on-site inspection takes place, its conduct shall be governed by the principles and rules established in Article IX of the Convention. 3/

(c) on the basis of the results of the investigation carried out by the Technical Secretariat, decide on whether to request the provision of assistance; the decision to request assistance shall require a two-thirds majority;

(d) inform all States Parties of its decision.

---

1/ A view was expressed that assistance should be provided automatically in case of actual use of chemical weapons. Another view was expressed that assistance should be provided on a voluntary basis.

2/ Some reservations have been expressed about the ability of the Executive Council to assess "threat of use".

3/ A view was expressed that all aspects related to investigations and fact-finding procedures should be dealt with in the context of Article IX.

5. Each State Party to the Convention undertakes:

(a) to co-operate and facilitate, as appropriate, the investigation including on-site inspection initiated by the Executive Council under paragraph 4 (b);

[(b) that, whenever so requested by the Executive Council, it shall, to the extent possible, provide assistance and support the provision of assistance to the requesting State.]

6. The Technical Secretariat, in close co-operation, as appropriate, with the relevant international agencies in the humanitarian field, will co-ordinate the actions undertaken in providing the necessary assistance. 1/ 2/

[7. Within six months after the entry into force of the Convention, States Parties shall conclude with the Organization an agreement on the provision of assistance under this article. Such agreement shall be based on a Model Agreement and shall specify the equipment, training facilities and other technical advice or services to be provided by the State Party to the States concerned.]

[8. The organization 3/ shall prepare, and be responsible for the implementation of, programmes for the promotion of international co-operation for the development and strengthening of a protective capacity against chemical weapons by interested States, including programmes for the dissemination of scientific and technological information on protective measures against chemical weapons and for training in such measures.]

9. Nothing in this Convention shall be interpreted as affecting the right of all the Parties to the Convention to conduct research with, develop, produce, acquire and use means of protection against chemical weapons, for purposes not prohibited by the Convention.

[10. All the parties to the Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, material and scientific and technological information for protection against chemical weapons.] 4/

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1/ A view was expressed that States Parties should conclude subsidiary arrangements with the Technical Secretariat whereby they indicate ways and means by which they can provide assistance. Another view was expressed that the conclusion of such arrangements was not needed.

2/ The question of how to meet the costs needs to be discussed.

3/ The question of which organ(s) of the Organization should be entrusted with this task should be considered further.

4/ The view was expressed that co-operation in this field could be conducted through voluntary bilateral and multilateral agreements.

Article XI: Economic and technological development <sup>1/</sup>

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].

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<sup>1/</sup> 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.



Articles XII, XIII, XIV, XV and XVI 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 (Articles XII to XVI).

This discussion paper constitutes an attempt by the Chairman to summarize the views expressed during these consultations. The paper is presented with the aim of facilitating further consideration. 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 XIII: Amendments

Commentary

(a) There is a common understanding by the delegations that any State Party may, in accordance with the agreed procedure, propose amendments to this Convention.

(b) Views were expressed that certain basic provisions should not be subject to amendments. Article I, article IV, paragraph 5 (a) and article V, paragraph 8 (a) were mentioned in this respect.

(c) According to the majority of the views expressed, 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.

(d) Views were expressed that, regardless of the type of procedure to be followed for the adoption of amendments, they shall enter into force for all States Parties at the same time; another view is based on the premise that ratification or acceptance by a State Party is required for an amendment to enter into force in regard to this State.

Possible wording for article XIII

1. Any State Party may, in accordance with the agreed procedure, propose amendments to this Convention.

2. (a) Amendments may be made to any provision of this Convention.

- or alternatively -

2. (a) No amendments may be made to the following provisions of this Convention: article I, article IV, paragraph 5 (a), Article V, paragraph 8 (a) ...

(b) The provisions contained in [...] <sup>1/</sup> may be amendment by unanimous agreement of States Parties.

(c) Provisions not mentioned in paragraph 2 (b) may be amended by majority of [...].

(d) Provisions not mentioned in paragraphs 2 (b) and 2 (c) may be amended by simple majority.

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<sup>1/</sup> It is understood that such provisions should be enumerated.

3. (a) The text of any proposed amendment shall be communicated to the [Depositary] [Director-General of the Technical Secretariat] not less than ... [days, months] prior to a regular session of the [General Conference] [Consultative Committee] and shall be promptly communicated by him to all States Parties.

(b) Proposed amendments shall be discussed at the nearest regular session of the [General Conference] [Consultative Committee] and may be adopted at its next regular session. This does not preclude the [General Conference] [Consultative Committee] from taking a decision, by a two-thirds majority of the States Parties present and voting, to convene a special session to discuss and adopt the proposed amendments. 1/

4. Adopted amendments shall be subject to acceptance [ratification] by States Parties according to their constitutional processes and shall enter into force for all States Parties upon the deposit of instruments of acceptance [ratification] with the Depositary by:

(a) all States Parties as regards amendments to the provisions listed in paragraph 2 (b) above,

(b) a [qualified] majority of States Parties as regards amendments to provisions not mentioned in paragraph 2 (b) above,

(c) a simple majority of States Parties, as regards other provisions,

(d) original States Parties

- or as an alternative to paragraphs 3 (b) and 4 above -

Amendments shall enter into force for Parties ratifying or acceding to them on the thirtieth day following the deposit of instruments of ratification of 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.

5. The provisions of this article do not affect the special amendment procedures provided for in relevant parts of this Convention.

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1/ It is to be discussed whether sessions of the General Conference or Review Conferences are appropriate forums in which to consider amendments to the 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. <sup>1/</sup> 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 -

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<sup>1/</sup> 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 Depository, 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 [General Conference] [Consultative Committee]. 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 Depository, 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.

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1/ It is to be discussed whether special provisions regarding the competence of the Executive Council and General Conference 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 [General Conference] is not in a position to declare that all chemical weapons have been destroyed and are subsequently banned from all States Parties.

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1/ Views were expressed that this provision would not be necessary.

Article XV: Signature, ratification, accession, entry into force

Commentary

There seems to be an understanding that:

1. (a) The Convention shall be open for signature to all States and shall be ratified by signatories;
  - (b) Non-signatory States shall be entitled to accede to the Convention;
  - (c) Provisions on the entry into force shall ensure the widest possible adherence of States to the Convention.
2. The preference was expressed for the number of 60 ratifications for the Convention to enter into force.

Note:

In the course of consultations on this article 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 Article XV 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.

Possible wording for Article XV:

1. Signature.

This Convention shall be open for signature to all States until [its entry into force] [date] [indefinitely] at (venue).

2. Ratification.

This Convention [and its Annexes, which form an integral part thereof] 1/ shall be subject to ratification by signatories according to their constitutional processes.

3. Accession.

Any State which does not sign the Convention [before its entry into force] [date] may accede to it at any time. 2/

4. Deposit of instruments of ratification or accession.

Instruments of ratification and instruments of accession shall be deposited with the [Depositary] [Secretary-General of the United Nations, hereby designated as the Depositary].

5. Entry into force.

(a) This Convention shall enter into force [... days after the date of] [upon] the deposit of the [60th] [40th] instrument of ratification [or accession];

(b) For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the [...th day following the] date of the deposit of their instruments of ratification or accession. 3/

1/ See paragraph 1 in the Note above.

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

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.

Article XVI: 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 Article XV, XVI or a separate article might be needed.

(d) Provisions for languages, authentic texts and registration as given below, were not objected.

Possible wording for Article XVI

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 XVI: 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;

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

- (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.

Article XVII: 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 ...

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The questions of the settlement of disputes not related to compliance issues, as well as the placement of the provision for review conferences, were also raised but have not yet been discussed.



CONFERENCE ON DISARMAMENT

20/04/1999  
7 April 1999

ENGLISH  
Original: FRENCH

Ad Hoc Committee on Chemical Weapons

ANNEX

Annex to the Convention on the Prohibition of Chemical Weapons

Security during the destruction period

APPENDIX III

Security during the destruction period:

material relevant to the issue.

ANNEX TO ARTICLE I. PROVISIONS RELATING TO THE SECURITY STOCK

Add a paragraph 2:

"These provisions shall not affect the specific transitional rules relating to the security stock."

ANNEX TO ARTICLE I. PROVISIONS RELATING TO THE SECURITY STOCK

1. Objectives

The States Parties recognize the need for each of them to ensure its security during the transitional phase of destruction of stockpiles of chemical weapons.

To this end,

(1) Each country, as it so desires, may, during the first eight years after the entry into force of the Convention, hold under international control a limited stock of chemical weapons known in the text of the present Convention as a "security stock".

(2) This security stock shall be destroyed under international control not later than during the ninth or tenth year after the entry into force of the Convention, the conditions of such destruction being made by each

A. Material from the 1988 session

- CD/CW/WP.199
- CD/822
- CD/CW/WP.182
- CD/CW/WP.211

## CONFERENCE ON DISARMAMENT

CD/CW/WP.199  
7 April 1988

ENGLISH  
Original: FRENCH

### Ad Hoc Committee on Chemical Weapons

FRANCE

#### Working paper

#### Security stocks: proposed amendments

The following proposals, to be inserted in the "rolling text" of the draft convention (CD/795), follow the existing pattern of this text. The general prohibition of chemical weapons remains the rule, security stocks constituting one element in the transitional 10-year régime corresponding to the first phase of implementation of the Convention. They represent an option which each State party to the future agreement will be free to endorse.

\*

#### ARTICLE I. GENERAL PROVISIONS ON SCOPE

Add a paragraph 7:

"These provisions shall not affect the specific, transitional rules relating to the security stock."

\*

#### ANNEX TO ARTICLE I. PROVISIONS RELATING TO THE SECURITY STOCK

##### 1. Objectives

The States Parties recognize the need for each of them to ensure its security during the transitional phase of destruction of stocks of chemical weapons.

To this end,

(1) Each country, if it so desires, may, during the first eight years after the entry into force of the Convention, hold under international control a limited stock of chemical weapons known in the text of the present Convention as a "security stock".

(2) This security stock shall be destroyed under international control not later than during the ninth or tenth year after the entry into force of the Convention, the commitment to such destruction being made by each

State Party at the time of signature. Any production facility assigned to the security stock under the terms of article 2, paragraph 3, and article 4 of the present annex shall be destroyed not later than in the ninth year following the Convention's entry into force.

(3) The verification régime applicable to this stock shall be identical with that for other stocks remaining after the Convention's entry into force. This stock shall be subject, in the same conditions, to the inspection-on-challenge procedure if one of the parties considers it has grounds for believing that a State has violated the provisions of the Convention relating to security stocks.

## 2. General rules relating to the security stock

(1) Toxic chemicals of unitary munitions forming part of the security stock and, if necessary, one of the two constituent components of binary variants shall be entered in Schedule [1] of the annex to article VI of the Convention.

The security stock shall be composed exclusively of munitions. It may not exceed a volume of 2,000 metric tonnes of toxic chemicals. In the case of binary munitions, this volume shall relate to the toxic chemical generated by the munitions and not to their constituent reagents.

(2) The number of storage places shall be limited to a maximum of ... sites.

(3) The establishment and maintenance of this stock may be ensured only by a single production facility comprising, as needed, the means of:

Manufacturing the chemical and toxic agents listed in Schedule [1] of the annex to article VI of the Convention; and

Loading and maintaining the munitions.

(4) This single facility shall be declared in accordance with the provisions of section I.A of the annex to article V and placed under international control, in accordance with the procedures defined in article 4 of the present annex.

(5) The establishment, where necessary, of the production facility once the Convention has entered into force shall be effected under international control.

(6) This facility may be different from the small-scale production facility authorized under article VI of the Convention for research, medical or protective purposes.

3. Declaration of stocks

The declaration of the security stock shall be separate from that of other stocks as provided for in the annex to article III and in section I of the annex to article IV. It shall be deposited with the Executive Council within 30 days following the accession of the signatory country and shall be updated every year during the 10 years following the Convention's entry into force.

It shall comprise the total volume of the stock and the detailed composition thereof, on the same terms as declarations of stocks under the general régime, and the choice of the acceding country as between the following three options:

Option No. 1 - One or more declared places of storage:

The declaration of the security stock shall in this case include this place or these places or storage.

Any transfer of all or part of the security stock shall be subject to supervision by the Technical Secretariat.

Option No. 2 - A single undeclared place of storage:

A sealed envelope specifying the location of the security stock shall immediately be deposited with the Technical Secretariat.

In the event of formal notice being given, the following procedure may be put into effect:

Either the suspicion of violation of the provisions of the Convention relates to a location where the requested State denies that its stock is situated, in which case the envelope shall not be opened but the requesting State shall be free to request an on-site inspection in the inspection-on-challenge conditions;

Or the requested State acknowledges that the location giving rise to suspicion of violation is the place where its stock is situated, in which case, if the requesting State declares itself dissatisfied with this initial response, the envelope shall be opened as of right. If the requesting State still considers itself dissatisfied, it may request an on-site inspection in the inspection-on-challenge conditions.

Option No. 3 - Two or more undeclared places of storage (up to a maximum limit of ... locations):

In this case, the State party shall deposit with the Technical Secretariat a sealed envelope for each place of storage specifying the characteristics (composition, volume) of the stock situated in that place.

In the event of formal notice being given, the following procedure may be put into effect:

Either the suspicion of violation of the provisions of the Convention relates to a location where the requested State denies that a part of its stock is situated, in which case the envelope shall not be opened but the requesting State shall be free to request an on-site inspection in the inspection-on-challenge conditions;

Or the requested State acknowledges that the location giving rise to suspicion of violation is the place where a part of its stock is situated, in which case, if the requesting State declares itself dissatisfied with this initial response, the corresponding envelope shall be opened as of right. If the requesting State still considers itself dissatisfied, it may request an on-site inspection in the inspection-on-challenge conditions.

After the opening of the envelope (option No. 2) or of one of the envelopes (option No. 3), every State shall have the possibility of transferring the corresponding stock to another undeclared place. A further sealed envelope shall in that case be previously forwarded to the Technical Secretariat.

4. Declaration and procedures for monitoring the production facility assignable to the security stock

The single production facility assigned to the security stock, as defined in article 2, paragraph 3, of the present annex, shall be placed under international control on the same basis as other facilities declared under the Convention, apart from placing under seal.

All manufacturing operations involving products in Schedule [1] of the annex to article VI of the Convention undertaken in the single production facility shall be reserved for the establishment or maintenance of the security stock and shall be effected under international control.

5. Destruction of security stocks

Any country which wishes to eliminate its security stock sooner than under the provisions of the third paragraph of the present article may do so by declaring, if it has not already done so, its site or sites and by forwarding an estimated destruction schedule to the Technical Secretariat. The general régime for the destruction of the security stock and the related single production facility shall in that case apply.

In the case of States which have chosen option No. 2 or option No. 3 as described in paragraph 3 of the present annex, the envelopes shall be opened at the end of the eighth year following the Convention's entry into force. In all cases (options Nos. 1, 2 and 3), the storage facilities shall at the end of the eighth year be transferred to international control, in accordance with the procedures provided for in the case of stocks under the general régime in article IV of the Convention.

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The security stock shall be transported to the destruction site or sites and half of it shall be destroyed in the ninth and tenth years, in accordance with a detailed plan transmitted by the possessor State to the Technical Secretariat.

6. Destruction of the production facility assignable to the security stock

Any country which wishes to destroy the single production facility before the ninth year following the Convention's entry into force may do so after having forwarded to the Technical Secretariat the estimated schedule for such destruction.

In any event, the destruction of this facility shall be effected not later than the end of the ninth year following the Convention's entry into force.

7. Updating or renewal of the security stock

(1) The States Parties to the Convention undertake to destroy munitions from the security stock, and to manufacture new munitions intended for that stock, under international control, in the following conditions:

They undertake to prepare a detailed declaration of the elements in the security stock which are considered obsolete, to effect - under national responsibility - the transfer of those elements to a destruction facility, to forward a destruction schedule to the Technical Secretariat, and to carry out such destruction under international control;

The production of new munitions, which may be different from the munitions destroyed, shall be effected under international control in the single production facility reserved for this purpose, within the limit of the authorized tonnage for toxic chemicals.

(2) In the event of the updating of the security stock, the declaration (option No. 1) or the contents of the envelopes (options Nos. 2 and 3) shall be updated within three months following commencement of this operation.

\*

ARTICLE III. DECLARATIONS

Amend paragraph 1 (c) (Other declarations) to read:

"The precise location ... of any facility, with the exception of the production facility assigned to the security stock, as defined in the annex to article I, ..."

\*

ARTICLE IV. CHEMICAL WEAPONS

Amend paragraph 1 to read:

"The provisions of this article and its annex shall apply, without exception other than the rules relating to the security stock as defined in the annex to article I, to any and all chemical weapons ...".

\*

ARTICLE V. CHEMICAL WEAPONS PRODUCTION FACILITIES

Amend paragraph 1 to read:

"The provisions of this article shall apply to any and all chemical weapons production facilities, except the production facility assigned to the security stock in accordance with the terms of the annex to article I, under the jurisdiction or control ...".

Delete paragraph 3.

\*

ARTICLE IX. CONSULTATIONS, CO-OPERATION AND FACT-FINDING

Add the following sentence to paragraph 1:

"The specific procedures of the inspection-on-challenge régime applicable to security stocks shall be those of paragraph 3 of the annex to article I."

## CONFERENCE ON DISARMAMENT

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### FEDERAL REPUBLIC OF GERMANY AND ITALY

#### Working Paper

#### The order of destruction of chemical weapons

1. Over the past few years the issue of order of destruction of chemical weapons has been paid a lot of attention in the negotiations on a global ban on chemical weapons. A number of working papers were devoted to this subject. 1/ The issue has also been subject to intensive consultations by the Chairman of the Ad hoc Committee on Chemical Weapons, the result of which is reflected in the Chairman's paper included in Appendix II, pages 92 and 93 of CD/795 of 2 February 1988.

2. As is already stated in the Annex to Article IV, Section IV, paragraph 1 of the rolling text (CD/795, page 41) the elaboration of the order of destruction shall be built on the following considerations:

- 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;
- applicability, irrespective of the actual composition of the stockpiles and the method chosen for the destruction of the chemical weapons.

Among these points, the principle of maintaining undiminished security for all States during the entire destruction stage is of paramount importance. It is the basic yardstick for assessing proposed solutions to the question of the order of destruction of chemical weapons.

Recently, attention has even more focused on the maintenance of undiminished security during the envisaged 10-year destruction phase due to the different sizes of the chemical weapon stocks existing at the start of the 10-year destruction phase.

3. In an effort to meet the concerns expressed with regard to maintaining security during the 10-year destruction phase, also in view of existing disparities in chemical weapon arsenals, the following approach is suggested:

I. In accordance with Article I, paragraph 1, and Article V, paragraphs 2 and 3 the production of chemical weapons shall cease immediately upon entry into force of the Convention.

II. In accordance with Article IV, paragraph 8 and Article V, paragraph 10, as well as the relevant parts of the Annexes to these Articles, all chemical weapons storage sites as well as all chemical weapons production facilities shall be subjected to systematic international on-site verification.

III. For the purpose of destruction, the categorization developed in the Chairman's paper in Appendix II of CD/795 shall apply. Within each of the three categories a States Party shall determine on its own its detailed plans for each annual period of the destruction process.

IV. In a first phase the States Parties possessing the largest stocks of chemical weapons shall proceed with the destruction of their CW stocks until an agreed level is reached.

For the practical implementation of this basic undertaking the following provisions shall apply:

- for the purpose of the Convention States Parties with large stocks shall be considered to be those States Parties which possess more than [...] tons of chemical weapons agents regardless of whether these agents are in bulk or filled in munitions or other devices;
- the initial reduction period devoted to the reduction of the chemical weapon stocks of the States Parties with large stocks shall comprise [five] years from the entry into force of the Convention;
- the reduction in the existing large stocks shall start not later than one year after the entry into force of the Convention;
- at the end of this [five] year period equal levels with regard to the remaining [...] tons of chemical weapon agents shall be achieved by all States Parties with large stocks;
- without prejudice to the actual start in the reductions the five annual reduction amounts shall be calculated according to the following formula:

$$x = \frac{A1 - A2}{5}$$

- States Parties with large stocks shall submit during this first phase annual reports on the reduction of their respective stockpiles to the Technical Secretariat.

V. After the "levelling out" of the large stocks at [...] tons at the end of the fifth year after the entry into force of the Convention a review on the results achieved so far and the experiences gained during the first years with the destruction of chemical weapons and its verification will be carried out during a Special Session of the General Conference of the Organization. The Executive Council will make the necessary preparations for this meeting with the help of the Technical Secretariat.

VI. After the levelling-out phase of the largest stockpiles has been concluded the destruction process will enter into its second phase. During this phase which lasts from the end of the fifth year until the end of the tenth year all States Parties possessing chemical weapons, and regardless of the size of the respective chemical weapons stocks, are required to destroy their chemical weapons. The destruction would be carried out in a linear fashion, i.e. the existing stockpile for each CW-possessor State would be subdivided into five equal reduction amounts to be destroyed during the remaining five years of the destruction period. In the process use could be made of the three categories mentioned above under paragraph 3, III. In this way all existing stockpiles shall be eliminated at the end of the tenth year of the destruction process.

#### Notes

- 1/ CD/697 of 20 May 1986;  
CD/CW/WP.162 of 7 April 1987;  
CD/CW/WP.169 of 15 June 1987;  
CD/CW/WP.182 of 15 January 1988.
- 2/ X = annual reduction amount;  
A1 = declared total stock of chemical weapons (Article. IV, para.2);  
A2 = ... tons; (residual stock after initial five years reduction period for large stocks);  
5 = five years in which residual equal levels of stocks are to be reached.



## CONFERENCE ON DISARMAMENT

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Ad hoc Committee on  
Chemical Weapons

### MONGOLIA

#### Working Paper

#### The order of destruction of chemical weapons stocks

The destruction of chemical weapons is one of the main objectives of the multilateral Convention on the complete and effective prohibition of the development, production and stockpiling of chemical weapons and on their destruction.

Accordingly, this issue is being given priority attention in the negotiations.

In its working paper CD/CW/WP.162 of 7 April 1987, the delegation of Mongolia submitted proposals aimed at finding a mutually acceptable solution. Taking into account the progress achieved in this regard in the negotiations, it now submits for discussion a further elaboration of its proposals.

In the efforts to reach the goal of the final elimination of chemical weapons provision must be made for the complete destruction of stocks and the prohibition of the development, production and stockpiling of such weapons. At the same time, a principle as important as that of undiminished security for all States must be strictly observed during the entire period of destruction.

For that reason it is very important to devise principles and an order for the destruction of chemical weapons that will simultaneously meet all these requirements.

Many important issues related to the destruction of the stockpiles of these weapons have already been agreed upon in the negotiations. The Ad hoc Committee on Chemical Weapons is to complete in the near future the work on the order of destruction of CW stocks. Certain prerequisites have already been created for that. It should be especially emphasized that there is

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general agreement, which is reflected in the draft Convention, regarding the destruction of all CW stocks by the end of the tenth year after the Convention enters into force and, as regards the fulfilment of that objective, it has been considered appropriate to divide all CW stocks into categories and to compare chemicals within categories by weight.

Taking into account the discussions at the negotiations, it seems possible to concretize the proposal by establishing the following categories of CW stocks:

Category I - chemical weapons based on Schedule [I] chemicals;

Category II - chemical weapons based on any other chemicals;

Category III - unfilled munitions and devices and equipment, specifically designed for employment in connection with the use of chemical weapons.

Such a grouping and the possibility of comparing chemicals by weight would give States parties to the Convention which possess chemical weapons a certain freedom with respect to the order of destruction of the various types of these weapons.

Security during the period of destruction of stocks should be based on, above all, the immediate cessation of CW production in compliance with the basic obligations under the Convention, the declaration by States parties possessing chemical weapons not later than 30 days after the Convention enters into force for them of the size and location of all CW stocks, the verification of the credibility of such declarations, and the placing of the stocks under systematic international control precluding any covert activity in their regard. That would create complete transparency regarding the stocks and confidence concerning the prevention of any action detrimental to the security of any of the States parties to the Convention.

Moreover, such completeness of information on CW stocks right from the Convention's entry into force would make it possible to work out and co-ordinate plans for the destruction of chemical weapons that took into account the principle of levelling-out, whereby, without prejudice to the principle of undiminished security for all States at all stages of destruction, States possessing chemical weapons would be left after the Convention had been in force for an agreed length of time with approximately equal quantities of such weapons, to be destroyed by the tenth year of operation of the Convention. These timeframes and the amounts of the remaining stocks are to be agreed upon in the course of the negotiations.

The declaration of stocks by the States participating in the negotiations at this stage would considerably further the solution of the problem of the order of destruction of CW stocks.

# CONFERENCE ON DISARMAMENT

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## Ad hoc Committee on Chemical Weapons

USSR

### Working paper

#### Assessment of the proposal by France concerning "security stocks"

1. The USSR proceeds from the premise that the order of destruction must be based on the principle of undiminished security of States during the entire destruction process, as has already been agreed in the "rolling text". However, the French proposal concerning "security stocks", while proclaiming the same principle, does not in fact have the result of ensuring security.

2. The French proposal provides that the States parties to the convention will have the right to retain production capacities and manufacture chemical weapons, and also acquire such weapons, for at least eight years and possibly longer after the convention enters into force. Moreover, this right would be granted not only to States possessing chemical weapons, but also to those without them. As a result, States possessing chemical weapons could renew their stocks (within the limits of the "security stock"), while those without could establish such "security stocks". This constitutes in essence a call for the legalized build-up and proliferation of chemical weapons. This approach leads not to equal security but to increasing equal insecurity.

The security of the parties to the convention can be ensured immediately after its entry into force through the implementation of a number of measures which would safely freeze stocks at current levels until they are destroyed, and would rule out preparations for their use as well as actual use. This would involve, first and foremost, the declaration of all existing stocks, their placing under systematic international control with the help of on-site inspections and continuous monitoring with instruments, and the adoption of measures to ensure that the chemical weapons are not removed from the store

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except to a destruction facility. Provisions to this effect are contained in paragraphs 2 and 3 of article IV of the "rolling text". Moreover, the removal of chemical weapons from a store to a destruction facility must be conducted under international control. This provision, contained in the annex to article IV, section II, paragraph 6(b), has been agreed upon by all participants in the negotiations.

The implementation of these measures, which in essence would amount to the placing of chemical weapon stocks under "international arrest", would place all participants on an equal footing in terms of their security.

3. The authors of the proposal under consideration consider that the security of all States parties may be called into question either gradually (e.g. as a result of delays in the timetable for the destruction of the stockpiles as a result of material difficulties) or suddenly (e.g. the exit from the convention of one of the States parties or its refusal to continue with the elimination of the remaining stocks). Theoretically such situations may arise. However, the response to them should be different from that suggested by the authors of the proposal.

If a State begins to experience material or technical difficulties in the process of destroying its stocks, it should be granted assistance in order to ensure compliance with the schedule of destruction. It is another matter when a State refuses to continue destroying its stocks. This is a flagrant violation of the convention, with all the consequences that follow. This problem should be solved by creating an effective mechanism which would ensure compliance with the convention.

4. The French proposal does not solve the problem of preventing an exceptional situation connected with the possible withdrawal of a chemical-weapon State party from the convention and the unfreezing of its stocks. The paradox of the French proposal lies in the fact that, while calling for equal security for States parties to the convention, it may objectively increase the likelihood that such an exceptional situation will arise, in so far as the number of countries possessing chemical weapons will grow after the convention enters into force. It is one thing when all chemical weapon production facilities are closed and secured, and another when even one such facility remains. It will be an easy and rapid task to exceed the limits of "security stocks" by using this facility and its infrastructure. In this way the dangerous consequences of a State's withdrawal from the convention will also increase, since it will possess not only reactivated stocks but also the capability for effecting their rapid build-up, renewal and upgrading.

5. The convention should eliminate the real difference between chemical-weapon and non-chemical-weapon States, and should do so immediately after it enters into force. The French proposal, however, is based on the premise that the status quo existing before the convention enters into force can be changed to the advantage of those States that do not possess chemical weapons or would like to increase their stocks.

The French proposal runs counter to the essence and spirit of the convention. A scheme for the legitimizing of chemical weapons industries - and the most dangerous aspects of them - is placed in opposition to the concept of consistent elimination of chemical weapons and the facilities for their production. The French proposal would also seriously complicate monitoring of chemical weapon stocks. As a result, not only will there not be an increase in confidence among the parties to the convention, but new sources of concern will appear which may divide the States that have signed the convention. This cannot either ensure security for the parties to the convention, or encourage them to accede to it on a large scale.

List of other relevant documents  
from previous sessions

CD/CW/WP.152 -

CD/CW/WP.153 -

CD/CW/WP.154 -

CD/CW/WP.155 -

CD/CW/WP.156 -



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