

COMMITTEE ON DISARMAMENT
AND
CONFERENCE ON DISARMAMENT

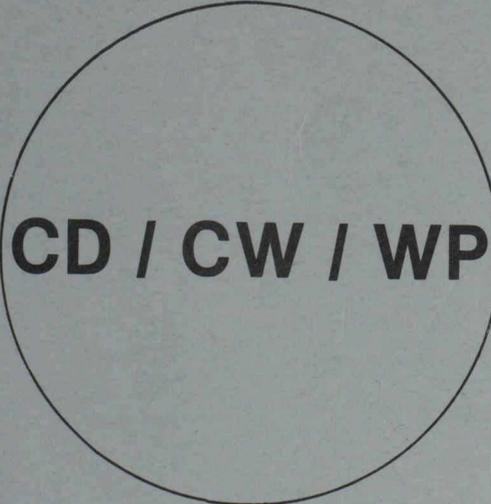
CHEMICAL WEAPONS

WORKING PAPERS OF THE

Ad Hoc WORKING GROUP ON CHEMICAL WEAPONS 1980 – 1984

AND

Ad Hoc COMMITTEE ON CHEMICAL WEAPONS 1984 – 1985



CD / CW / WP

COMPILED BY:

ARMS CONTROL AND DISARMAMENT DIVISION OF

THE DEPARTMENT OF EXTERNAL AFFAIRS

OTTAWA, CANADA

FEBRUARY 1986

CHEMICAL WEAPONS WORKING PAPERS
Submitted to AHWGCW/AHCCW of the CD 1980 - 1985
Chronological Index

Serial Reference Country Description

1980

115 CD/CW/
WP.2 and
Add.1
and 2
"List of Documents" Containing a
List of Committee on Disarmament
Proposals to the Work of the
Working Group on
Chemical Weapons, Circulated
between May 1979 and July 1980

PREFACE

CD/CW/WP

116 CD/CW/
WP.3
This volume covers working papers tabled in
the Ad Hoc Working Group on Chemical Weapons (AHWGCW)
from 1980 to 1984 and the Ad Hoc Committee on Chemical
Weapons (AHCCW) during 1984 and 1985. It is compiled
to facilitate discussions and research on the issue of
Chemical Weapons.

128 CD/
WP.4
Not all numbered working papers from the
AHWGCW and AHCCW have been reproduced here. Some
papers were also tabled in plenary and given a CD/
number. These can be found in the accompanying volume
for plenary official documents (WP). Other papers
were of such transitory importance (relating mainly to
procedural matters) that they have not been reproduced.

131 CD/
WP.5
Note that the index is a chronological
listing while the documents themselves are arranged in
numerical order by CD/CW/WP number.

1981

133 CD/CW/
WP.7 and
Nov. 1
Chairman
AHWGCW
Outline Suggested by the Chairman
for the work of the Group - Part
1

140 CD/CW/
WP.8 and
Corr. 1
Chairman
AHWGCW
Outline Suggested
for the work of
2

141 CD/CW/
WP.9
Canada
Verification and Chemical

Dept. of External Affairs
Min. des Affaires extérieures

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CHEMICAL WEAPONS WORKING PAPERS
Submitted to AHWGCW/AHCCW of the CD 1980 - 1985
Chronological Index

Serial	Reference	Country	Description	Date
<u>1980</u>				
115	CD/CW/ WP.2 and Add.1 and 2		"List of Documents" Containing a List of Committee on Disarmament Documents Relevant to the Work of the <u>Ad Hoc</u> Working Group on Chemical Weapons, Circulated between July 1979 and July 1980	28.4.80 17.7.80 29.7.80
116	CD/CW/ WP.3	United States	Issues to be Defined by the <u>Ad Hoc</u> Chemical Weapons Working Group	28.4.80
117	CD/CW WP.4	Sweden	Issues to be Dealt with in the Negotiations on a Convention on Chemical Weapons	18.6.80
128	CD/CW/ WP.5	Federal Republic of Germany	The Impact of On-site Inspections of Current Civilian Production on the Chemical Industry	11.7.80
129	CD/CW/ WP.1	Chairman	Working Paper Introduced by the Chairman - Draft Report to the Committee on Disarmament (Not Reproduced)	15.7.80
131	CD/CW/ WP.6	France	Criteria for the Definition of Chemical Warfare Agents	18.7.80
<u>1981</u>				
139	CD/CW/ WP.7 and Rev. 1	Chairman AHWGCW	Outline Suggested by the Chairman for the Work of the Group - Part 1	16.2.81 4.3.81
140	CD/CW/ WP.8 and Corr.1	Chairman AHWGCW	Outline Suggested by the Chairman for the Work of the Group - Part 2	24.2.81 4.3.81
141	CD/CW/ WP.9	Canada	Verification and Chemical Weapons	25.2.81

Serial	Reference	Country	Description	Date
142	CD/CW/ WP.10 and Corr.1	Chairman AHWGCW	Outline Suggested by the Chairman of the Work of the Group - Part 3	3.3.81
143	CD/CW WP.11	Mongolia Poland USSR	Chemical Weapons: Types of Activity to be Covered by a Convention on the Prohibition of Chemical Weapons	5.3.81
144	CD/CW WP.12	Chairman AHWGCW	Outline Suggested by the Chairman for the Work of the Group - Part 4	10.3.81
146	CD/CW/ WP.13	Chairman AHWGCW	Outline Suggested by the Chairman for the Work of the Group - Part 5.	16.3.81
147	CD/CW/ WP.14	Chairman AHWGCW	Outline Suggested by the Chairman for the Work of the Group - Part 6	16.3.81
148	CD/CW/ WP.15	Bulgaria Hungary Poland	Chemical Weapons: Definitions	25.3.81
150	CD/CW/ WP.16	France	Declarations and Destruction of Materials and Facilities	26.3.81
153	CD/CW/ WP.17	France	Chemical weapons - Definitions, Criteria	27.3.81
155	CD/CW/ WP.18	Australia	Initial Comments on the Consolidated Outline Suggested by the Chairman of the <u>Ad Hoc</u> Working Group on Chemical Weapons	16.4.81
157	CD/CW/ WP.19	Chairman AHWGCW	Suggestions by the Chairman of the Working Group on Chemical Weapons for Elements of a Chemical Weapons Convention	23.4.81

Serial	Reference	Country	Description	Date
158	CD/CW WP.20	Chairman AHWGCW	Suggestions by the Chairman of the Working Group on Chemical Weapons for Elements of a Chemical Weapons Convention	15.6.81
159	CD/CW WP.21	Chairman AHWGCW	Suggestions by the Chairman of the Working Group on Chemical Weapons for Elements of a Chemical Weapons Convention	15.6.81
160	CD/CW/ WP.22 and Corr.1 and Rev.1	Chairman AHWGCW	Report of the Chairman to the Working Group on Chemical Weapons on the Consultations Held on Issues Relating to Toxicity Determinations	13.7.81 15.7.81 23.7.81
164	CD/CW/ WP.23	Australia	Chemical Weapons Verification: Consultative Committee of Experts	21.7.81
165	CD/CW/ WP.24	Australia	Chemical Weapons Convention: Assistance to Parties	21.7.81
167	CD/CW/ WP.25	Australia	Chemical Weapons Verification: The Methyl-Phosphorous "Finger Print" <u>1982</u>	27.7.81
171	CD/244	United Kingdom	Verification and Monitoring Compliance in a Chemical Weapons Convention (also issued as CD/CW/WP.26)	18.2.82
172	CD/CW/ WP.27 and Rev.1	Chairman AHWGCW	Suggestions by the Chairman on the Draft Programme of Work of the <u>Ad Hoc</u> Working Group on Chemical Weapons for the First Part of its 1982 Session.	23.2.82 26.2.82

Serial	Reference	Country	Description	Date
174	CD/258 and Corr.1	Bulgaria	Questions Related to the Ban of Binary Chemical Weapons	12.3.82
175	CD/CW/ WP.29	Bulgaria	Questions Related to the Ban of Binary Chemical Weapons	12.3.82
177	CD/CW/ WP.30 and Corr.1	Chairman AHWGCW	Report of the Chairman to the Working Group on Chemical Weapons on the Consultations held on Issues Relating to Toxicity Determinations	22.3.82
180	CD/266	Yugoslavia	Binary Weapons and the Problems of their Definition and Verification (also issued as CD/CW/WP.31)	24.3.82
182	CD/271	USA, UK, Australia	Technical Evaluation of "RECOVER" Techniques for CW verification (also issued as CD/CW/WP.32)	1.4.82
186	CD/CW/ WP.34	Chairman AHWGCW	The Chairman's Closing Statement (first part of 1982 session)	16.4.82
188	CD/CW/ WP.33 and Corr.1	Chairman AHWGCW	Compilation of Revised Elements and Comments thereto (CD/220), Proposed New Texts and Alternative Wordings as well as Comments on New Texts	28.4.82 23.7.82
189	CD/294	USSR	Basic Provisions of a Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on Their Destruction (also issued as CD/CW/WP.35)	21.7.82

Serial	Reference	Country	Description	Date
190	CD/CW/ WP.36	Chairman AHWGCW	Consultations with Delegations, Assisted by Experts by the Chairman of the Working Group on Chemical Weapons	23.7.82
191	CD/298	Yugoslavia	Some Aspects of Verification in a Chemical Weapons Convention (also issued as CD/CW/WP.37)	26.7.82
192	CD/CW/ WP.38	Yugoslavia	Suggested Alternative Definition of Chemical Weapons	28.7.82
194	CD/301	Belgium	Monitoring of the Prohibition of the Use in Combat of Chemical and Bacteriological (Biological) or Toxin Weapons (also issued as CD/CW//WP.39)	4.8.82
197	CD/308	Federal Republic of Germany, Nether- lands	Document Containing Preliminary Questions Concerning CD/294 (also issued as CD/CW/WP.40)	10.8.82
198	CD/CW/ WP.41 and Corr.1	Chairman AHWGCW	Report of the Chairman to the Working Group on Chemical Weapons on the Consultations Held with Experts on Technical Issues.	10.8.82 25.8.82
201	CD/316	France	Monitoring of the Destruction of Stock of Chemical Weapons (also issued as CD/CW/WP.42)	19.8.82
205	CD/CW/ WP.43	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons to the Committee on Disarmament (Not Reproduced)	6.9.82
206	CD/333	Chairman AHWGCW	View on Possible Compromises Wordings of the Elements of a Future Convention (also issued as CD/CW/WP.44)	14.9.82

Serial	Reference	Country	Description	Date
			<u>1983</u>	
209	CD/342	Chairman AHWGCW	Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons on its Work During the Period 17-28 January 1983 (also issued as CD/CW/WP.45, 28.1.83)	8.2.83
214	CD/CW/ WP.46	Nether- lands	Suggested List of Key Precursors - Including Those Usable in Multi-component Chemical Weapon Systems	12.4.83
215	CD/CW/ WP.47	United States	United States Delegation Impressions of the CW Technical Consultations Held in January 1983	18.4.83
216	CD/CW/ WP.48	United States	Working Hypothesis on Systematic International On-site Inspection of the Destruction of Declared Stocks	18.4.83
217	CD/CW/ WP.49	AHWGCW	Statement by the Co-ordinator of Contact Group A	26.4.83
218	CD/CW/ WP.50	Poland	Views of the Polish Delegation on the Results of the Consultations with Delegations on Technical Issues Held in the Framework of the <u>Ad Hoc</u> Working Group on Chemical Weapons During the Period 17 January - 4 February 1983	27.4.83

Serial	Reference	Country	Description	Date
219	CD/CW/ WP.53	Bulgaria	Working Hypothesis on Verification of Destruction of Declared Stocks	28.6.83
220	CD/CW/ WP.51	United States	Preventing Illegal Production of Key Precursors of Nerve Gas	30.6.83
221	CD/CW/ WP.52	United States	Verification of Non-production of Chemical Weapons	30.6.83
222	CD/CW/ WP.54	France	Precursors - Key Precursors	12.7.83
224	CD/393	Yugoslavia	Working Paper: Some Technical Aspects of the Verification Process in a Chemical Weapons Convention (also issued as CD/CW/WP.55)	13.7.83
228	CD/CW/ WP.56 and Rev.1 and Add.1	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons to the Committee on Disarmament (Not Reproduced)	16.8.83 22.8.83 16.8.83
229	CD/CW/ WP.57	United Kingdom	Verification of Non-Production of Chemical Weapons <u>1984</u>	17.8.83
230.1	CD/CW/ WP.58	AHWGCW	Indicative Programme of Work for the Period 16 January - 3 February 1984	18.1.84
231	CD/425	Sweden	Verification of the Destruction of Stockpiles of Chemical Weapons (also issued as CD/CW/WP.60)	18.1.84
232	CD/CW/ WP.59	Nether- lands	Verifications of Non-production of Chemical Weapons	18.1.84

Serial	Reference	Country	Description	Date
233	CD/424	USA	Verification of Chemical Weapons Stockpile Destruction (also issued as CD/CW/WP.61)	20.1.84
234	CD/426	Sweden	The Prohibition of Military Preparations for Use of Chemical Weapons (also issued as CD/CW/WP.62)	23.1.84
235	CD/CW/ WP.63	Belgium	Verification of Non-production of Chemical Warfare Agents	27.1.84
236	CD/CW/ WP.64	Finland	On Instrumental Monitoring of Incineration of CW Agents	31.1.84
237	CD/CW/ WP.65	France	Verification of Non-production of Chemical Weapons	31.1.84
238	CD/CW/ WP.66	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons on Its Work During the Period 16 January - 6 February 1984 (Not Reproduced)	6.2.84
245	CD/CW/ WP.67	Chairman AHCCW	Chairman's Suggestion for a Working Structure for the Negotiations on a Chemical Weapons Convention	28.2.84
246	CD/443	China	Proposals on Major Elements of a Future Convention on the Complete Prohibition and Total Destruction of Chemical Weapons (also issued as CD/CW/WP.68)	5.3.84

Serial	Reference	Country	Description	Date
248	CD/CW/ WP.70	AHCCW	Outline for the Organization of Work	9.3.84
248.1	CD/CW/ WP.69	AHCCW	Programme of Work of the Ad Hoc Committee on Chemical Weapons for the First Part of the 1984 Session (Not Reproduced)	14.3.84
249	CD/CW/ WP.71	Yugoslavia	Suggested Alternative Definitions	22.3.84
250	CD/CW/ WP.72	USSR	Proposal Concerning the Content of the Provision of the Future Convention on the Prohibition of Chemical Weapons Relating to the Procedure to be Followed in Considering a Request for an On-site Inspection by the State Which Receives it [amendment to para. 4.3 of the Report of the Co-ordinator of Contact Group B (document CD/416, annex II p.14)]	23.3.84
251	CD/482	Yugoslavia	Working Paper: National Verification Measures (also issued as CD/CW/WP.73)	26.3.84
252	CD/CW/ WP.75	China	Some Aspects on "Small-Scale Production Facility"	26.3.84
254	CD/CW/ WP.76	Iran	Proposal Concerning the Content of Chemical Weapons Relating to the Procedure to be Followed in Considering a Request by a Member State for an On-site Inspection. [Amendment to Article 4 of the Report of the Co-ordinator of Contact Group B (document CD/416, annex II, p.14)]	30.3.84
255	CD/CW/ WP.78	USSR	Proposal Concerning the Content of Procedures for the Verification of the Destruction of Chemical Weapons Stockpiles	2.4.84

Serial	Reference	Country	Description	Date
256	CD/494	France	Elimination of Stocks and Production Facilities (also issued as CD/CW/WP.79)	3.4.84
257.1	CD/CW/ WP.77/ Rev.1	AHCCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Month of April 1984 (Not Reproduced)	5.4.84
257.2	CD/CW WP.80	AHCCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Second Part of the 1984 Session (Not Reproduced)	17.4.84
259	CD/CW/ WP.81	Chairman AHCCW	Proposals by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons for Draft Articles for Parts of a Chemical Weapons Convention	26.4.84
260	CD/CW/ WP.82	Chairman AHCCW	Preliminary Structure of a Convention on Chemical Weapons	6.6.84
264.1	CD/CW/ WP.83	AHCCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Remainder of the 1984 Session (Not Reproduced)	16.7.84
267	CD/532	Socialist Group	The Organisation and Functioning of the Consultative Committee (also issued as CD/CW/WP.84)	8.8.84
268	CD/CW/ WP.85 and Add.1 and Add.2	AHCCW	Draft Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	8.8.84 15.8.84 14.8.84
269	CD/CW/ WP.86	United Kingdom	Verification of Non-production of Chemical Weapons	10.8.84
272	CD/541	Australia	Verification of Non-production of Chemical Weapons (also issued as CD/CW/WP.87)	9.10.84

Serial	Reference	Country	Description	Date
			<u>1985</u>	
272.1	CD/CW/ WP.88	AHCCW	Preliminary Programme of Work for the <u>Ad Hoc</u> Committee on Chemical Weapons During the Period 14 January - 1 February 1985 (Not Reproduced)	14.1.85
273	CD/CW/ WP.91	Chairman AHCCW	Working Paper by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons - Order for the Complete Destruction of Chemical Weapons	14.1.85
274	CD/CW/ WP.92	Finland	Description of a Facility for the Small-scale Production of Chemical Warfare Agents for Protective/permitted Purposes	15.1.85
275	CD/CW/ WP.93	Spain	Working Paper: Production Facilities - Control of Multinationals	22.1.85
275.1	CD/CW/ WP.94	AHCCW	Preliminary Programme of Work for the Week 28 January - 1 February 1985 (Not Reproduced)	25.1.85
276	CD/CW/ WP.89	Chairman AHCCW	Working Paper by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons - "Permitted Activities"	28.1.85
277	CD/CW/ WP.90	Chairman AHCCW	Working Paper by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons - Consultation, Co-operation and Fact-finding	28.1.85
278	CD/CW/ WP.95	Chairman AHCCW	Working Paper by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons - Questions and Answers Regarding CD/CW/WP.89	31.1.85

Serial	Reference	Country	Description	Date
279	CD/CW/ WP.96	AHCCW	Working Paper Prepared on the Basis of Consultations on the "Functions of the Consultative Committee, and Some Other Questions Concerning the Consultative Committee and its Subsidiary Organs"	31.1.85
280	CD/546	Chairman AHCCW	Report of the <u>Ad Hoc</u> Committee on Chemical Weapons on its Work During the Period 14 January - 1 February 1985 (also issued as CD/CW/WP.97)	1.2.85
281	CD/CW/ WP.98	Chairman AHCCW	Working Paper by the Chairman of the <u>Ad Hoc</u> Committee on Chemical Weapons - Outline for the Organization of Work During the 1985 Session	27.2.85
282	CD/CW/ WP.99	AHCCW	Working Group A - Chairman's Basic Working Paper: Permitted Activities	4.3.85
283	CD/575	United Kingdom	Verification of Non-production of Chemical Weapons: Proposals for Inspection Procedures and Data Exchange (also issued as CD/CW/WP.100)	6.3.85
284	CD/CW/ WP.101	AHCCW	Working Group C: Chairman's Working Paper on the Program of Work	13.3.85
285	CD/CW/ WP.102	AHCCW	Working Group B: Chairman's Working Paper on the Agenda for the Meetings on March 20 and March 27	20.3.85
286	CD/CW/ WP.103	AHCCW	Working Group A: Chairman's Basic Document - Permitted Activities	22.3.85

Serial	Reference	Country	Description	Date
288	CD/CW/ WP.104	AHCCW	Working Group A: Chairman's Basic Working Paper - Permitted Activities	4.4.85
290	CD/CW/ WP.105	AHCCW	Working Group A: Chairman's Basic Working Paper - Declaration and Monitoring	12.4.85
291	CD/CW/ WP.106	AHCCW	Working Group C: Alternatives for Articles VII, VIII, and IX of a Future Convention	12.4.85
292	CD/CW/ WP.107	Chairman AHCCW	Report of the Chairman of the Open-ended Consultations of the <u>Ad Hoc</u> Committee on Chemical Weapons	22.4.85
293	CD/CW WP.108	AHCCW	Report of the Chairman of Working Group B	22.4.85
294	CD/CW/ WP.109	AHCCW	Report of the Chairman of Working Group A	22.4.85
295	CD/CW/ WP.110	AHCCW	Report of the Chairman of Working Group C	22.4.85
295.1	CD/CW/ WP.111	AHCCW	Indicative Programme of Work for the Second Part of the 1985 Session (Not Reproduced)	14.6.85
296	CD/CW/ WP.112	Pakistan	Chemical Weapons Convention: the Question of Decision-Taking	19.6.85
300	CD/CW/ WP.113	Federal Republic of Germany	Verification of Non-production of Chemical Weapons	25.6.85
301	CD/605	China	Working Paper: Destruction of Chemical Weapons (also issued as CD/CW/WP.114)	4.7.85
302	CD/613	Yugoslavia	Permitted Activities - Verification Measures (also issued as CD/CW/WP.115)	10.7.85

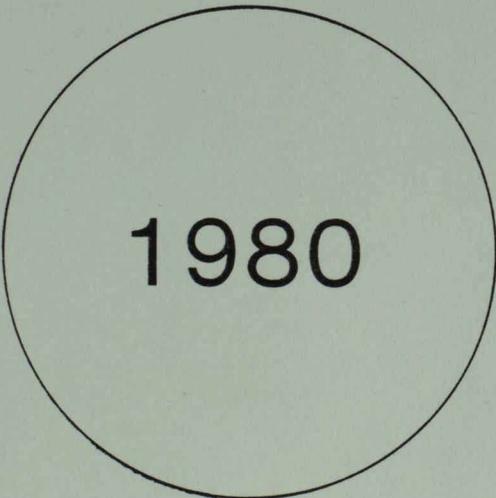
Serial	Reference	Country	Description	Date
304	CD/CW/ WP.116	AHCCW	Working Group C: National Implementation Measures	12.7.85
305	CD/CW/ WP.117	China	Explanations on Document CD/605 (serial 300)	16.7.85
307	CD/CW/ WP.118	Pakistan	Prohibitions on the Use of Herbicides	22.7.85
309	CD/620	German Democratic Republic	National Verification Measures to Implement the Convention on the Prohibition of Chemical Weapons (also issued as CD/CW/WP.119)	23.7.85
311	CD/CW WP.120	Poland	Criteria for a Request for On-site Verification and for the Explanation of a Refusal of the Request (to be considered as part of Article IX)	31.7.85
312	CD/CW/ WP.121	Australia	Verification of Non-production - Development of Criteria for Monitoring Non-diversion	31.7.85
314	CD/CW/ WP.122	AHCCW	Report of Chairman of Working Group C; Article VIII: Consultative Committee	2.2.85
316	CD/CW/ WP.123 and Corr.1	Chairman AHCCW	Report of the Chairman of the Open-ended Consultations of the <u>Ad Hoc</u> Committee on Chemical Weapons	5.8.85 12.8.85
317	CD/CW/ WP.124	AHCCW	Report of Working Group B	7.8.85
318	CD/CW/ WP.125	AHCCW	Report of Working Group A	7.8.85
319	CD/CW/ WP.126	AHCCW	Report of Working Group C	9.8.85
320	CD/CW/ WP.127	AHCCW	Draft Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	12.8.85

Serial	Reference	Country	Description	Date
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The following documents of the AHWGCW and AHCCW which do not contain any substantive material or are draft reports, are not reproduced but are listed here for identification purposes:

129	CD/CW/ WP.1	Chairman AHWGCW	Working Paper Introduced by the Chairman - Draft Report to the Committee on Disarmament (Not Reproduced)	15.7.80
205	CD/CW WP.43	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons to the Committee on Disarmament (Not Reproduced)	6.9.82
228	CD/CW/ WP.56 and Rev.1 and Add.1	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons to the Committee on Disarmament (Not Reproduced)	16.8.83 22.8.83 16.8.83
230.1	CD/CW/ WP.58	AHWGCW	Indicative Programme of Work for the Period 16 January - 3 February 1984 (Not Reproduced)	18.1.84
238	CD/CW/ WP.66	AHWGCW	Draft Report of the <u>Ad Hoc</u> Working Group on Chemical Weapons on Its Work During the Period 16 January - 6 February 1984 (Not Reproduced)	6.2.84
248.1	CD/CW/ WP.69	AHWGCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the First Part of the 1984 Session (Not Reproduced)	14.3.84
257.1	CD/CW/ WP.77/ Rev.1	AHWGCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Month of April 1984 (Not Reproduced)	5.4.84

Serial	Reference	Country	Description	Date
257.2	CD/CW/ WP.80	AHCCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Second Part of the 1984 Session (Not Reproduced)	17.4.84
264.1	CD/CW/ WP.83	AHCCW	Programme of Work of the <u>Ad Hoc</u> Committee on Chemical Weapons for the Remainder of the 1984 Session (Not Reproduced)	16.7.84
268	CD/CW/ WP.85 and Add.1 and Add.2	AHCCW	Draft Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	8.8.84 15.8.84 14.8.84
272.1	CD/CW WP.88	AHCCW	Preliminary Programme of Work for the <u>Ad Hoc</u> Committee on Chemical Weapons During the Period 14 January - 1 February 1985 (Not Reproduced)	14.1.85
275.1	CD/CW/ WP.94	AHCCW	Preliminary Programme of Work for the Week 28 January - 1 February 1985 (Not Reproduced)	25.1.85
295.1	CD/CW/ WP.111	AHCCW	Indicative Programme of Work for the Second Part of the 1985 Session (Not Reproduced)	14.6.85
320	CD/CW WP.127	AHCCW	Draft Report of the <u>Ad Hoc</u> Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	12.8.85



1980



UNITED NATIONS
CENTRE FOR DISARMAMENT
CONFERENCE ON
PROHIBITION OF CHEMICAL WEAPONS
Reference Library

In compliance with the request made by the Working Group at its first session on 21 April 1978 the Secretariat prepared a list of documents relevant to the Group's work.

It will be recalled that at its 31st plenary meeting on 27 April 1979 the Committee on Disarmament requested the Secretariat to bring up-to-date the factual OCB document of 11 March 1977 containing a compilation of appropriate material from documents and statements on the question of chemical weapons presented to the OCB and the CB in recent years. This document was prepared and circulated to the Committee under symbol CD/36 on 1 July 1979 and takes into consideration documents and statements made between 1977 and April 1979.

Since then the following substantive documents have been circulated:

CD/CW/1 Draft Report to the Committee on Disarmament 15.7.80

NOT REPRODUCED

- CD/37 of 17 July 1979, submitted by the United Kingdom, entitled: "Working paper on new aspects of verification of non-production of chemical weapons gained in the OCB".
- CD/38 of 16 July 1979, submitted by France, entitled: "Identification of new chemical weapons agents - an approach for the verification of compliance with reference data".
- CD/41 of 23 July 1979, submitted by the Polish People's Republic, entitled: "Working paper concerning chemical weapons as a circulating persisting chemical weapons".
- CD/42 of 26 July 1979, submitted by France, entitled: "Outline of a convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction".
- CD/43 of 7 August 1979, submitted by the United States of America and the Union of Soviet Socialist Republics entitled: "Joint report on progress in the bilateral negotiations on the prohibition of chemical weapons".
- CD/44 of 8 August 1979, submitted by the Polish People's Republic, entitled: "Chemical weapons agents to be prohibited as mentioned in CD/41".
- CD/45 of 15 August 1979, submitted by France, Spain and the Netherlands, entitled: "Development of the proposals of the CB in 1977 with respect to the prohibition of chemical weapons".

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Dr. J. H. ...
...

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20 April 1980

Original: ENGLISH

UNITED NATIONS
CENTRE FOR DISARMAMENT
DEPARTMENT OF
POLITICAL AND ECONOMIC AFFAIRS
Reference Library

In compliance with the request made by the working group at its first session on 23 April 1980 the Secretariat herewith provides a list of documents relevant to the Group's work.

It will be recalled that at its 31st plenary meeting on 27 April 1979 the Committee on Disarmament requested the Secretariat to bring up-to-date the informal CCD document of 11 March 1977 containing a compilation of appropriate material from documents and statements on the question of chemical weapons presented to the CCD and the CD in recent years. This document was prepared and circulated to the Committee under symbol CD/26 on 1 July 1979 and takes into consideration documents and statements made between 1972 and April 1979.

Since then the following substantive documents on this subject have been circulated:

- CD/21 of 20 June 1979 submitted by Poland entitled "Prohibition of the development, production and stockpiling of all chemical weapons and their destruction".
- CD/37 of 12 July 1979 submitted by the Federal Republic of Germany entitled: "Working paper on some aspects of international verification of non-production of chemical weapons; experience gained in the FRG".
- CD/39 of 16 July 1979, submitted by Finland to forward a study entitled "Identification of potential organosphosphorous warfare agents - an approach for the standardisation of techniques and reference data".
- CD/41 of 25 July 1979, submitted by the Netherlands, entitled: "Working paper containing questions relevant to a convention prohibiting chemical weapons".
- CD/44 of 26 July 1979, submitted by Poland, entitled: "Outline of a convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction".
- CD/48 of 7 August 1979, submitted by the United States of America and the Union of Soviet Socialist Republics entitled: "USSR-USA joint report on progress in the bilateral negotiations on the prohibition of chemical weapons".
- CD/49 of 8 August 1979, submitted by the Netherlands, entitled: "Chemical weapons: answers to questionnaire contained in CD/41".
- CD/52 of 13 August 1979, submitted by France, Italy and the Netherlands, entitled: "Evaluation of the discussion in the CD in 1979 with respect to the prohibition of chemical weapons".

- CD/68 of 28 February 1980, submitted by Poland, entitled: "Chemical weapons - a possible procedural approach to the tasks facing the CD".

- CD/84 of 26 March 1980, submitted by the Netherlands, entitled: "Draft initial work programme of the ad hoc working group on chemical weapons".

- CD/96 of 22 April 1980, submitted by Poland, entitled: "Ad hoc working group on chemical weapons - Initial Work Programme: Working Document".

List of Documents

ADDENDUM

Further to the request made by the Working Group at its first session on 23 April 1980 and the subsequent circulation of document CD/CW/WP.2, containing a list of documents relevant to the Group's work, the Secretariat herewith provides an addendum to that list, which contains substantive documents circulated since 28 April 1980:

- CD/102 of 19 June 1980 submitted by China entitled "Letter dated 19 June 1980 addressed to the Chairman of the Committee on Disarmament from the Acting Head of the Chinese Delegation to the Committee on Disarmament Transmitting a Working Paper on the "Chinese Delegation's Proposals on the Main Contents of a Convention on the Prohibition of Chemical Weapons".
- CD/103 of 24 June 1980 submitted by Finland entitled: "Letter dated 24 June 1980 from the Permanent Representative of Finland to the United Nations Office at Geneva addressed to the Chairman of the Committee on Disarmament transmitting a document entitled "Identification of Degradation Products of Potential Organophosphorus Warfare Agents".
- CD/105 of 27 June 1980 submitted by France entitled "Elements of a reply by the French delegation to the questionnaire relating to chemical weapons submitted by the Netherlands to the Committee on Disarmament (CD/41)".
- CD/106 of 27 June 1980 submitted by France entitled "Working Paper, Control of the non-manufacture and non-possession of agents and weapons of chemical warfare".
- CD/110 of 2 July 1980 submitted by Yugoslavia entitled "Working Paper on Medical Protection Against Nerve Gas Poisoning (Present Situation and Future Possibilities)".
- CD/111 of 2 July 1980 submitted by Yugoslavia entitled "Working Paper on the Definition of Chemical Warfare Agents (CWA)".
- CD/112 of 7 July 1980 submitted by the United States of America and the Union of Soviet Socialist Republics entitled "Letter dated 7 July 1980 addressed to the Chairman of the Committee on Disarmament from the Representatives of the USSR and the United States to the Committee on Disarmament".
- CD/113 of 8 July 1980 submitted by Canada entitled "Organization and Control of Verification Within a Chemical Weapons Convention".
- CD/114 of 9 July 1980 submitted by Australia entitled "Reply at this stage submitted by the Australian Delegation to the questionnaire relating to chemical weapons submitted by the Netherlands to the Committee on Disarmament in Document CD/41".
- CD/117 of 10 July 1980 submitted by Canada entitled "Definitions and Scope in a Chemical Weapons Convention".

List of Documents

ADDENDUM

The following documents of relevance to the work of the Group were issued on or after 17 July 1980:

- CD/121 of 17 July 1980 submitted by Poland entitled "Some of the issues to be dealt with in the negotiation on a C.I. convention: Working paper"
- CD/122 of 21 July 1980 submitted by Morocco entitled "Proposed definition of chemical weapons"
- CD/123 of 21 July 1980 submitted by the Mongolian People's Republic entitled "Working document - Interrelationship between the future convention on the complete prohibition and destruction of chemical weapons and the Geneva Protocol of 1925"
- CD/124 of 24 July 1980 submitted by Indonesia entitled "Some views of the prohibition of chemical weapons"

REPORT

REPORT OF THE COMMITTEE ON THE ORGANIZATION OF THE MEDICAL PROFESSION

The Committee on the Organization of the Medical Profession, organized in 1915, has the honor to submit to the American Medical Association its report on the subject of the organization of the medical profession. The Committee has held numerous public hearings and has received many suggestions from the public and from the medical profession. It has also conducted extensive research into the various problems connected with the organization of the medical profession. The following are the principal findings of the Committee:

- 1. The medical profession is a profession in the true sense of the word.
- 2. The medical profession is a profession of the highest order.
- 3. The medical profession is a profession of the most important character.
- 4. The medical profession is a profession of the most noble character.
- 5. The medical profession is a profession of the most honorable character.
- 6. The medical profession is a profession of the most dignified character.
- 7. The medical profession is a profession of the most respected character.
- 8. The medical profession is a profession of the most trusted character.
- 9. The medical profession is a profession of the most valued character.
- 10. The medical profession is a profession of the most esteemed character.
- 11. The medical profession is a profession of the most honored character.
- 12. The medical profession is a profession of the most revered character.
- 13. The medical profession is a profession of the most venerated character.
- 14. The medical profession is a profession of the most sacred character.
- 15. The medical profession is a profession of the most holy character.
- 16. The medical profession is a profession of the most divine character.
- 17. The medical profession is a profession of the most angelic character.
- 18. The medical profession is a profession of the most heavenly character.
- 19. The medical profession is a profession of the most ethereal character.
- 20. The medical profession is a profession of the most spiritual character.
- 21. The medical profession is a profession of the most intellectual character.
- 22. The medical profession is a profession of the most scientific character.
- 23. The medical profession is a profession of the most artistic character.
- 24. The medical profession is a profession of the most literary character.
- 25. The medical profession is a profession of the most musical character.
- 26. The medical profession is a profession of the most dramatic character.
- 27. The medical profession is a profession of the most poetic character.
- 28. The medical profession is a profession of the most philosophical character.
- 29. The medical profession is a profession of the most historical character.
- 30. The medical profession is a profession of the most geographical character.
- 31. The medical profession is a profession of the most political character.
- 32. The medical profession is a profession of the most social character.
- 33. The medical profession is a profession of the most economic character.
- 34. The medical profession is a profession of the most legal character.
- 35. The medical profession is a profession of the most moral character.
- 36. The medical profession is a profession of the most ethical character.
- 37. The medical profession is a profession of the most religious character.
- 38. The medical profession is a profession of the most patriotic character.
- 39. The medical profession is a profession of the most loyal character.
- 40. The medical profession is a profession of the most brave character.
- 41. The medical profession is a profession of the most generous character.
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- 45. The medical profession is a profession of the most merciful character.
- 46. The medical profession is a profession of the most forgiving character.
- 47. The medical profession is a profession of the most understanding character.
- 48. The medical profession is a profession of the most tolerant character.
- 49. The medical profession is a profession of the most peaceful character.
- 50. The medical profession is a profession of the most harmonious character.
- 51. The medical profession is a profession of the most cooperative character.
- 52. The medical profession is a profession of the most helpful character.
- 53. The medical profession is a profession of the most useful character.
- 54. The medical profession is a profession of the most productive character.
- 55. The medical profession is a profession of the most creative character.
- 56. The medical profession is a profession of the most innovative character.
- 57. The medical profession is a profession of the most progressive character.
- 58. The medical profession is a profession of the most forward-looking character.
- 59. The medical profession is a profession of the most visionary character.
- 60. The medical profession is a profession of the most idealistic character.
- 61. The medical profession is a profession of the most optimistic character.
- 62. The medical profession is a profession of the most hopeful character.
- 63. The medical profession is a profession of the most confident character.
- 64. The medical profession is a profession of the most determined character.
- 65. The medical profession is a profession of the most resolute character.
- 66. The medical profession is a profession of the most steadfast character.
- 67. The medical profession is a profession of the most unwavering character.
- 68. The medical profession is a profession of the most unflinching character.
- 69. The medical profession is a profession of the most unyielding character.
- 70. The medical profession is a profession of the most immovable character.
- 71. The medical profession is a profession of the most unshakable character.
- 72. The medical profession is a profession of the most unmovable character.
- 73. The medical profession is a profession of the most unchangeable character.
- 74. The medical profession is a profession of the most unalterable character.
- 75. The medical profession is a profession of the most unimpaired character.
- 76. The medical profession is a profession of the most unimpaired character.
- 77. The medical profession is a profession of the most unimpaired character.
- 78. The medical profession is a profession of the most unimpaired character.
- 79. The medical profession is a profession of the most unimpaired character.
- 80. The medical profession is a profession of the most unimpaired character.

UNITED STATES OF AMERICA

Issues to be Defined by the Ad Hoc Chemical Weapons Working Group

The list which appears below is illustrative of the issues which the U.S. Delegation believes the Chemical Weapons Working Group should address and define. It should be regarded as an aid in developing a starting point for our efforts to discharge the mandate contained in CD/80 rather than an end product. The U.S. Delegation may wish to make additions to this list and would, of course, welcome suggestions from other delegations.

Basic Prohibition
Definitions
Toxicity Criteria
Permitted Activities
Non-Transfer/Non-Assistance
Declaration of Stocks
Declaration of Facilities
Destruction of Stocks
What is to be Done with Facilities
Consultative Committee
Preparatory Commission
Consultation and Cooperation
Role of UN Security Council
Assistance in the Event of Violation
Types of Inspections
Verification of Destruction of Declared Stockpiles
Verification Regarding Former Chemical Weapons Production
and Filling Facilities
Verification Regarding Permitted Production for Protective
Purposes
Non-Interference with Verification
Domestic Legislation
Safety and Environmental Protection
Confidence-Building Measures
Non-Interference with Existing Agreements
Economic and Technological Development; International
Cooperation
Amendments
Review Conferences
Withdrawal
Depositary
Entry Into Force

Original: ENGLISH

SWEDEN

Issues to be dealt with in the negotiation on a Convention on
Chemical Weapons

The Swedish delegation presents below views on some matters mentioned in document CD/26. Additional and more detailed views will be submitted in due time.

1. Introduction

The ultimate objective of the CD negotiations on chemical weapons is to prohibit the acquisition and retention of a chemical warfare capability through a convention which also provides for effective measures to ensure the implementation and verification of such a prohibition.

2. Scope of ban

The ban should be comprehensive. Thus parties to the convention should undertake not to acquire or retain a chemical warfare capability, i.e. any activity, facility and material intended to enable the utilization of the toxic properties of chemical substances as agents against man, animal or plant for hostile purposes or in armed conflict. Exceptions should be allowed for activities, facilities and materials intended for peaceful purposes, including some measures of military nature and measures for protection against chemical warfare.

Each party to the convention in possession of a chemical warfare capability should undertake to dispose of it when adhering to the convention. With disposal of a chemical warfare capability is understood the cessation of all activities to acquire or retain it, and destruction or conversion for peaceful purposes of all facilities, equipment and materials.

2.3. Definitions regarding scope

In addition to the concept of chemical warfare capability, the concepts of activities, materials and facilities should also be defined.

2.3.1. Activities

Activities to be prohibited should include commercial activities, transfer, development including testing, production, stockpiling, planning, organization, training, dissemination of information and other activities intended for a chemical warfare capability.

2.3.2. Materials

Equipment and materials to be prohibited should include chemical agents, warheads and weapons systems intended for chemical warfare.

2.3.3. Facilities

Facilities to be prohibited should include development and testing facilities, production facilities, resources for planning and organization, training facilities including schools, information and other facilities and resources intended for a chemical warfare capability.

2.4. Delimitation criteria

2.4.1. Purpose and quantity criteria

A general purpose criterion is formulated under 2. Scope of ban. The quantity criteria could be formulated as follows: "In amounts larger than those required for protective or peaceful purposes". An understanding of the concept "larger" should be agreed upon.

2.4.3. Effect criteria

Toxicities, methods for toxicity determinations and their application in delimitating different agents.

3.1. Confidence-building measures

Parties should be invited to declare their possession of chemical weapons at the signing of the convention, and should be obliged to do so not later than when ratifying it. Other confidence-building measures to be considered to take place before the entry into force of the Convention are invitations to observe destruction of declared stocks or to exchange visits to selected facilities, and to exchange information on production activities, etc.

3.2. Verification measures

3.2.2. International verification measures

3.2.2.1. Organizational aspects

Parties should undertake to establish a Consultative Committee from among themselves to oversee the working of the convention. The Committee should have sufficient resources to monitor the implementation of the convention, including a permanent secretariat and technical experts. It should further, on the request by parties, decide on and carry out investigations, including on-site inspections, regarding alleged violations of the convention.

3.3. Complaints and clarification procedures

Any party to the convention which has reason to believe that any other party is acting in breach of obligations deriving from the provisions of the convention could, in addition to resorting to the investigation and factfinding by the consultative committee or other agreed procedures, also lodge a complaint with the Security Council of the UN.

4.5. Protocol and annexes

Detailed provisions concerning

- declarations on possession or non-possession of chemical weapons

- timetables and reporting procedures for the destruction of stockpiles and production facilities and cessation of activities for retention of a chemical warfare capability
- verification measures
- the consultative committee
- definitions
- delimitation of single and dual purpose agents
- list of possible exceptions
- toxicities, toxicity determinations and their application
- confidence-building measures.

FEDERAL REPUBLIC OF GERMANY

The impact of on-site inspections of current civilian production
on the chemical industry

Without any doubt the question of on-site inspections of civilian production facilities deserves a thorough discussion because many technical, legal and economic aspects must be taken into account and straightforward solutions are difficult. The main problem is that production processes in the chemical industry are the result of extremely expensive research undertaken in the fields of chemistry, technology and engineering. Some of the results of industrial research can be protected by patents, but the value of the protection is limited and does not include all the experience acquired during the practice of manufacturing which is generally referred to as know-how.

That is why industry has a legitimate interest in keeping certain details of the production process as well as of the construction of production facilities secret. On-site inspections should respect these legitimate interests of the chemical industry as far as possible. The crucial question can therefore be formulated as follows: is it possible to elaborate a practicable procedure for on-site inspections allowing the inspectors to gather sufficient information to ensure them that CW-agents are not produced in the controlled factory without forcing the producer to reveal commercial secrets?

Regarding the complexity of this problem in view of the high degree of diversification of the chemical industry, it goes without saying that it is impossible to describe the details of an on-site inspection procedure fulfilling the aforementioned requirement in a short working paper. Nevertheless, some principles can be enunciated which, in our opinion, could reduce the difficulties considerably.

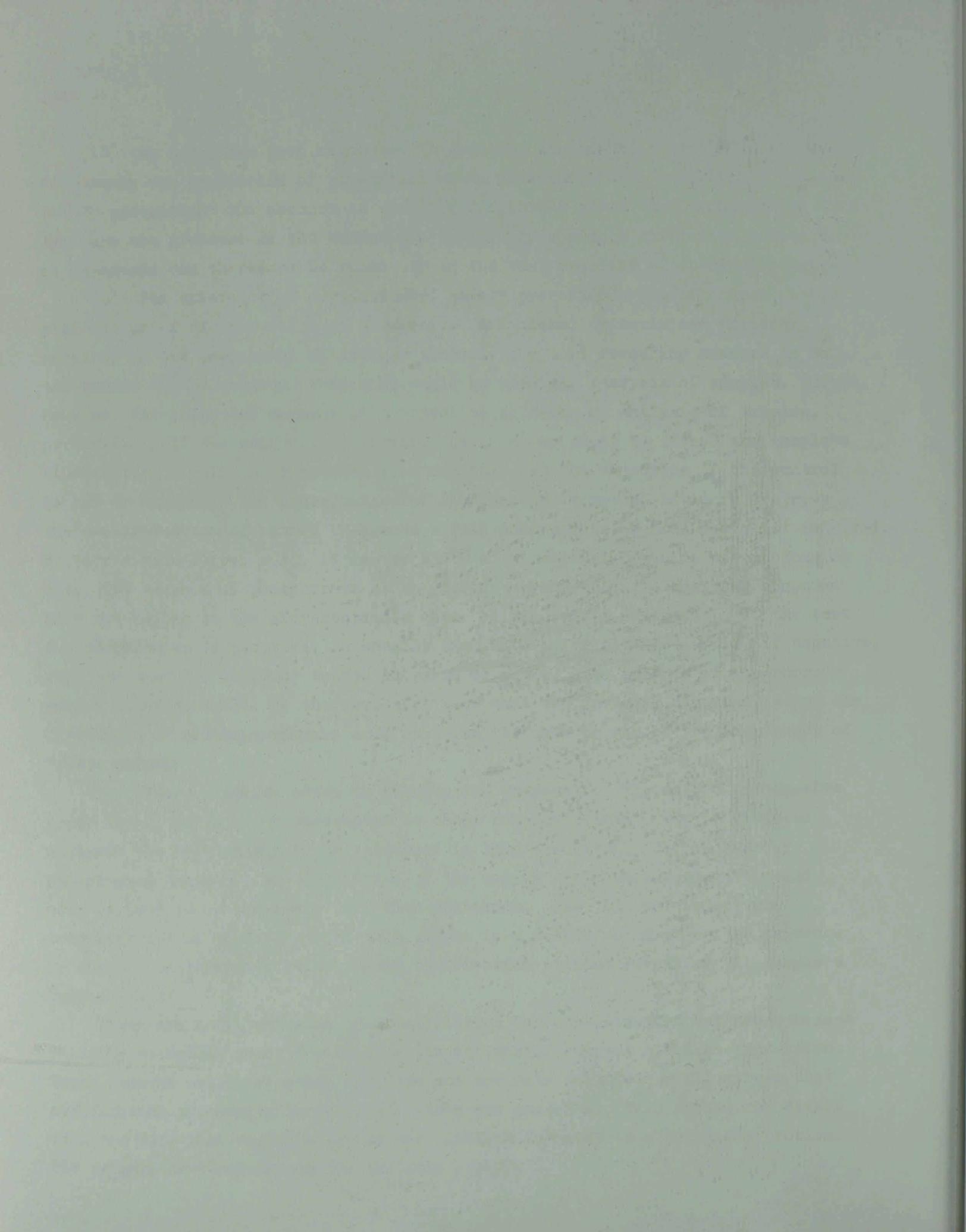
(a) It is self-evident that verification is easier if the number of compounds the non-production of which is to be verified is small. Though a ban should be comprehensive, verification by on-site inspections should be restricted to those compounds which -- regarding the state of military technology -- actually are of practical importance. In this respect, certain derivatives of methanphosphonic acids are of outstanding importance. The following remarks therefore refer mainly to these compounds.

(b) As has often been mentioned in previous statements of the Federal Republic of Germany the production of supertoxic methanphosphonic acid derivatives requires safety precautions the absence of which is sufficient proof that compounds of this type are not produced in the controlled plant. By a simple inspection production of CW-agents can therefore be ruled out in the vast majority of chemical plants.

(c) The existence of sophisticated safety precautions is, of course, not a positive proof of production of CW-agents. Additional criteria are therefore required in the inspection of certain plants. The most revealing measure as to the nature of the produced compounds would be chemical analysis of samples. Often, however, the inspected company will object to allowing an analysis of samples, particularly if the analysis is carried out in a way so as to reveal the complete constitution of all the compounds in a reactor. As the objective of the control is not to determine the constitution of the produced compound but only to prove the non-production of banned CW-agents a full analysis is in most cases not required. By very simple means, e.g., it can be shown if a compound contains phosphorous or not. The absence of phosphorous is an absolute proof that the analysed compound does not belong to the aforementioned class of prohibited CW-agents. If the test for phosphorous is positive, an equally simple test for flourine would, if negative, rule out that the compound tested is sarin or soman. The absence of phosphorous and/or flourine would, by the way, also show that the produced compound is not the diflouride of methanphosphonic acid which may be used as one of the components of binary weapons.

(d) These examples refer to phosphorous compounds. The method of negative proof is, of course, not restricted to these compounds only. Nor is chemical analysis the only method to be discussed in this connexion. In the case of phosphorous compounds the inhibition of the enzyme acetylcholinesterase could also be used as an extremely sensitive indicator. Last but not least, the determination of acute toxicity of a sample is a method which shows the presence or absence of compounds relevant for verification without revealing the sample's constitution.

These are a few examples of possibilities for non-intrusive but nevertheless reliable technical means for on-site inspections of current civilian production. These remarks are by no means complete and are only intended to illustrate that verification procedures in chemical plants are possible. This should not divert from the fact that verification in the civilian industry is a secondary problem. The primary problems are in the military sector.



FRANCE

Criteria for the Definition of Chemical Warfare Agents

As long as international agreements were designed merely to prohibit the "use" of chemical warfare agents, the problem of their precise definition was a marginal one: the formula used in the Geneva protocol was sufficiently general to cover all chemical substances because of their toxicity as soon as they were intentionally used in military operations.

No preventive control was provided for; the only criterion used was that of effects and it was actual use that constituted an offence.

The same is no longer true once the prohibition is extended to the development, production and stockpiling of chemical warfare agents. A more precise definition based on unambiguous criteria becomes indispensable, since this definition will serve as a basis for the establishment of the monitoring and control procedures necessary for constant verification to ensure that the clauses of the agreement are in fact being observed.

The criterion of destination which served as the basis for the prohibition of biological weapons cannot be the sole criterion in the case of chemical weapons. This criterion can only serve as the sole criterion in the case of single-purpose agents.

The criterion of destination must therefore be supplemented by one or preferably several other criteria. The factors governing the choice of these new criteria must make it possible to classify the agents not in accordance with their effects or military characteristics but in accordance with special rules to which they must be subject within the context of an agreement prohibiting their production.

The following categories can thus be distinguished:

Single-purpose agents: very toxic, these agents belong to a small number of groups/organophosphorous compounds, carbamates, yperites.

Dual-purpose agents: less toxic than the previous category, these belong to very different families.

Precursors of single-purpose agents. These are usually the substances corresponding to the last stage of the manufacturing process and can be used in bindery munitions. They may be much less toxic than the previous categories or even non-toxic.

Incapacitants. These are not generally used for industrial purposes.

Irritants. These non-lethal substances are used in police operations.

Selection of criteria for definition

In her report at our meetings with experts, Mrs. Freeman, the Australian expert, gave a perfect definition of the characteristic which a chemical compound must have to be used as a chemical warfare agent, and I will not, therefore, repeat what she said.

The number of substances which combine all these characteristics at once is relatively small. It would therefore be intellectually satisfying to draw up a formula whereby each characteristic would be given a weighted value and each new substance having the desired toxicity would be the subject of a study to determine whether it satisfied the other criteria. Once a compound's characteristics had been evaluated, its manufacture could thus be authorized or prohibited. The Federal Republic of Germany has proposed a system of this type (CCD/458).

However, this approach has a major disadvantage: each new compound requires an appropriate study which has much in common with the developmental studies for the chemical warfare agents which the convention is supposed to prohibit. Moreover, while monitoring and control under the convention could be limited because of the limited number of substances that would in the end be involved, the selection of substances to be considered would necessitate the establishment of too cumbersome an organization.

However, it should be noted that, of the criteria used to define a chemical warfare agent, the most important is, by definition, a high enough degree of toxicity, and the other criteria can be modified to a greater or lesser extent as appropriate.

In the absence of a more satisfactory method, it is therefore the toxicity criterion which must serve as the basis for defining chemical warfare agents, with an appropriate threshold value being established for each of the categories defined above.

It is obviously desirable for the toxicity evaluation procedures to reproduce as faithfully as possible the effects of the route by which the chemical warfare agent penetrates the organism: inhalation or percutaneously. This approach is not very usual in scientific laboratories where use is generally made of injection; however, the lethal dose by intraperitoneal or subcutaneous injection (LD 50), although proposed as the toxicity criterion, reflects only very remotely inhalation or percutaneous toxicity. The ratio between the toxicities measured by the various routes of entry to the organism is not constant and may vary by a factor of 1 to 10 depending on the substance.

Canada has described a method for determining inhalation toxicity (LCt 50) which might, in our view, be acceptable as a norm after some further work (CCD/387).

Better still, Canada has proposed a simpler, quicker and cheaper method which consists in comparing the toxicity of the substance in question with one or more reference substances, the toxicity of which corresponds to the selected threshold (CCD/473).

Single-purpose chemical agents

The manufacture of these compounds (organophosphorous compounds, carbamates, yperites) which are the most toxic, should be totally prohibited.

To categorize them, it is necessary to define a toxicity threshold. The United States of America and the USSR have agreed on an inhalation toxicity threshold (LCt 50) of $2,000 \text{ mg}\cdot\text{min}/\text{m}^3$; this makes it possible to include all the compounds referred to above in the category of single-purpose agents and seems very suitable. However, it is necessary to find a reference substance whose inhalation toxicity corresponds to that value.

In this specific instance, it should be noted that inhalation toxicity does not cover all specific cases; for example, carbamates are more toxic if they are introduced into the organism by a projectile than if they are inhaled. It would therefore be useful to supplement the criterion of inhalation toxicity, in this particular case at least, by the evaluation of intraperitoneal-injection toxicity. The United States suggests a threshold of $0.5 \text{ mg}/\text{kg}$, which is acceptable, although it can also apply to certain dual-purpose agents.

Moreover, some groups of very toxic compounds can be defined by their structure. With some very few exceptions, organophosphorous chemical warfare agents are derived from methylphosphoric acid, while the structure of organophosphorous pesticides is based on phosphoric acid.

The formula proposed by the Netherlands (CCD/383) to determine the structure of supertoxic organophosphorous compounds, taken together with the toxicity criterion defined above, would make it possible to cover all the agents in this group while including only a minimum number of compounds suitable for civil purposes.

Carbamates and yperites do not lend themselves to such an approach; it would be necessary to envisage the establishment of a list of potential military substances for these two groups of substances.

Dual-purpose agents

Whatever the verifications procedure envisaged for these substances, it is necessary to define a toxicity threshold under which the substances' utilization for military purposes is highly improbable.

Canada has proposed that this threshold should be set at an LCt 50 toxicity level of 20,000 mg min/m³ for inhalable substances (this being the toxicity level of chlorine). The Soviet and United States delegations have accepted this proposal.

The following reference substances are proposed for the quick method proposed by Canada: chlorine for inhalation toxicity, nicotine for percutaneous-route toxicity and neostigmine for injection toxicity.

Precursors or chemical warfare agents

The development of binary munitions presents another problem. As far as is known, the substances used are known as precursors for certain organophosphorous compounds and are therefore included among the substances whose manufacture is controlled.

For the time being, the new toxic substances that can be adapted to the binary system present an insoluble problem.

Incapacitants and irritants

The use of incapacitants for civil purposes is very limited; the complete prohibition of the manufacture of such substances is therefore possible.

Irritants, on the other hand, are used in police operations and their manufacture should be controlled in the same way as that of dual-purpose agents.

This control could be based on the criterion of destination taken together with an effectiveness criterion.

In this case, the LCt 50 inhalation criterion could not in fact be used. The LCt 50 of these substances is very high and always above 20,000 mg.min/m³, which theoretically places them among the substances not subject to control. To help

overcome these difficulties, Canada proposes a new criterion which would be the product of the concentration in vapour or aerosol form multiplied by the exposure time at the end of which an irritation or incapacitation is observed in 50 per cent of the persons exposed; this is referred to as the average effective Ct. The proposed threshold of 500 mg.min/m^3 would make it possible to resolve the problem; commonly used irritants exceed this level, whereas incapacitants do not.

Determining the average effective Ct is a complex task, since it involves differing techniques depending on the mode of action of the substance in question.

In conclusion, the criterion of destination cannot be used on its own to define a chemical warfare agent; it must at least be combined with the toxicity criterion for lethal substances and the effectiveness criterion for incapacitants or irritants.

In the light of the above, it may be concluded that:

I. The development, production and stockpiling of the following chemical warfare agents must be totally prohibited. The production of limited quantities may be authorized for research in the health field and the development of protective measures:

Organophosphorous compounds, whose structure corresponds to that defined by the Netherlands (CCD/338);

Chemical substances whose inhalation toxicity threshold as evaluated by the Canadian comparative method is below that of a reference agent (to be selected) which has a toxicity threshold of around $2,000 \text{ mg.min/m}^3$ and for which the average lethal percutaneous dose is lower than that of nicotine or whose average lethal dose by injection is lower than that of neostigmine;

Incapacitants whose average effective Ct by inhalation is less than 500 mg.min/m^3 .

II. The development, production and stockpiling of the following chemical agents should be authorized only for scientific and industrial needs:

Chemical agents whose LCt 50 is between $2,000$ and $20,000 \text{ mg.min/m}^3$.

III. The development, production and stockpiling of the following chemical agents should be authorized only for scientific and industrial needs or for training and police needs:

Irritants whose average effective Ct is above 500 mg.min/m^3 .

Any new chemical substance whose inhalation toxicity threshold is below $20,000 \text{ mg.min/m}^3$ or whose average effective Ct is below 500 mg.min/m^3 should be declared.

1981

Outline Suggested by the Chairman for the work of the group.

PART 1

Activities, facilities and materials to be prohibited, including criteria and definitions

1.1 The aim of the convention.

Three main alternative views have been expressed, which require further consideration

Alt. 1. There is a convergence of views that the convention should prohibit at least the development, production and stockpiling of chemical weapons.

Alt. 2. It has also been suggested that the convention should be more comprehensive and prohibit all activities, facilities and materials intended to enable a Party to use chemical weapons or utilize the toxic properties of chemical substances for hostile purposes or in armed conflict.

Alt. 3. Another suggestion is that the convention should prohibit also the use of chemical weapons in addition to the development, production and stockpiling of chemical weapons.

(The issue of destruction and conversion will be dealt with in Part 2.)

1.2 The following activities, facilities and materials would be prohibited or otherwise regulated in the three alternative views:

1.2.1 Activities

Common for alternatives 1-3;

- development
- production
- stockpiling
- acquisition
- retention
- transfer (including trading) and assistance to other States

Additional for alt. 2:

- planning
- organization
- training

Additional for alt. 3:

- use

1.2.2. Facilities

Common for alternatives 1-3:

- development and testing facilities
- production facilities/means of production
- specific storing facilities

Additional for alt. 2:

- resources for planning and organization
- training facilities

1.2.3. Materials, including equipment

Common for alternatives 1-3:

- chemical warfare agents including
 - (a) supertoxic chemical substances
 - (b) toxic, single purpose chemical warfare agents
 - (c) toxic, dual purpose chemical warfare agents
 - (d) herbicides
 - (e) precursors
- warheads and weapon systems and other materials and resources specifically intended for the use of chemical weapons

1.3 The following definitions could be considered:

- 1.3.1 Chemical warfare capability: the capability to use chemical weapons.
- 1.3.2 Chemical Weapon: the combination of a charge of a chemical warfare agent and means of dispersing the agent in the target (chemical munitions).
- 1.3.3 Chemical weapons system: chemical weapons and means to make possible their use.

1.3.4 Chemical warfare agent: a chemical substance, which alone or together with other chemical substances have direct toxic effects on man, animal or plant and with such physical and chemical characteristics that it can be utilized in a chemical weapon, i.e. a chemical substance which is actually used or intended to be used in chemical weapons. It may be a single purpose agent or a dual purpose agent, which groups may be differentiated according to their toxicities in super-toxic and toxic chemical warfare agents.

1.3.5 Chemical agent: a chemical substance which may be used in a chemical weapon but is in fact not utilized or planned to be utilized in it.

1.3.6 Precursors to a chemical warfare agent: chemical substances which not necessarily themselves are suitable chemical warfare agents but which form particular chemical warfare agents when made to react chemically with each other in a chemical weapons system.

1.3.7 Dual purpose agent: a chemical substance which is used or may be used not only for chemical warfare but also for peaceful purposes.

1.3.8 Single purpose agent: a chemical substance which is used or may be used for chemical warfare solely.

1.4 The following criteria could be considered as the basis in determining the scope of the prohibition:

1.4.1 General purpose criterion: the intention - with regard to chemical warfare - of activities, facilities and materials. The general purpose criterion might be qualified by further criteria, like quantity and toxicity criteria.

1.4.2 Quantity criterion: allowance of activities, facilities and materials for peaceful and protective purposes to the extent justified by these purposes.

1.4.3 Toxicity criteria:

(a) Supertoxic chemical warfare agents substances having lethal toxic effect on men or animals in doses less than 0.5 mg/kg (subcutaneous LD₅₀) or 2 000 mg min/m³ (by inhalation, LCt₅₀) or both.

(b) Toxic chemical warfare agents: substances having a lethal toxic effect on men or animals in doses in the range of 0.5 - 10 mg/kg (subcutaneous LD₅₀) or in the range of 2000 - 20 000 mg min/m³ (by inhalation, LCt₅₀) or both or giving rise to any other toxic effect in doses less than 0.5 mg/kg (intravenous ED₅₀) or less than 2 000 mg min/m³ (by inhalation, ECt₅₀) or both.

1.4.3.1 Toxicological methods:

(a) Definitions

LD₅₀ (Lethal Dosis, 50%) scientifically defined as the dosis of a substance, which is expected to kill 50% of an exposed population. It is expressed as mg/kg body weight.

LCT₅₀ (Lethal Concentration and Time, 50%) scientifically defined as the product of time for exposure and concentration of a substance in air, which is expected to kill 50% of an exposed population. It is expressed as mg min/m³.

ED₅₀ (Effective Dosis, 50%) scientifically defined as the dosis of a substance, which is expected to incapacitate 50% of an exposed population. It is expressed as mg/kg body weight.

ECT₅₀ (Effective Concentration and Time, 50%) scientifically defined as the product of time for exposure and concentration of a substance in air, which is expected to incapacitate 50% of an exposed population. It is expressed as mg min/m³.

The expression "expected to incapacitate 50% of an exposed population" could be understood as "expected to disable 50% of the exposed soldiers to perform their usual duties in a war situation".

(b) Methods

General considerations. Toxicity tests could be in accordance with "Principles and Methods for Evaluating the Toxicity of Chemicals", Environmental Health Criteria 6, World Health Organization, Geneva 1978.

Toxicity tests may have to be preceded by chemical analysis, as described below. As far as possible, toxicity tests may have to be performed on pure substance. When determining lethal effects of a substance (LD₅₀ and LCT₅₀) two species may have to be used - mice and rats of well-defined, easily available strains. Lowest value may be decisive.

For LD₅₀-determinations, subcutaneous injection could be the way of administration. Survival during 48 hours could be observed. Calculation of LD₅₀ may have to be done according to established procedure.

For LCT₅₀-determinations, the time of exposure is maximised to ten minutes. When aerosols are used, particle size distribution may have to be determined and optimized in order to ascertain maximal uptake. Survival during 48 hours may have to be observed. Calculation of LCT₅₀ may have to be done according to established procedure.

For evaluating incapacitating effects of chemical substances (ED_{50} and ECT_{50}) animal tests may have to be devised that, as far as possible, are analogous to the situation for soldiers, which is suggested for the definition of incapacitating effects as mentioned above.

Primates could be used for such experiments. Experience from human use of incapacitating agents can be utilized to evaluate ED_{50} and ECT_{50} .

(c) Chemical identification

The chemical identity of all compounds must be ascertained, and expressed according to existing chemical nomenclature e.g. IUPAC.

In the case of mixtures, the active compound or compounds must first be isolated and purified by suitable methods to at least 99 per cent purity.

Whenever possible, the alleged chemical identity of a compound may have to be verified by mass spectrometry and nuclear magnetic resonance. If optical isomerism is possible, the presence or absence of optical activity of the compound should be verified. If mass spectrometry and/or nuclear magnetic resonance methods cannot be applied, e.g. in the case of macromolecules, other unequivocal physical, chemical, biochemical or biological methods might be used.

1.4.4 Other criteria:

- shelf life
- volatility and explosion stability

1.5 Exceptions:

1.5.1 for civilian purposes:

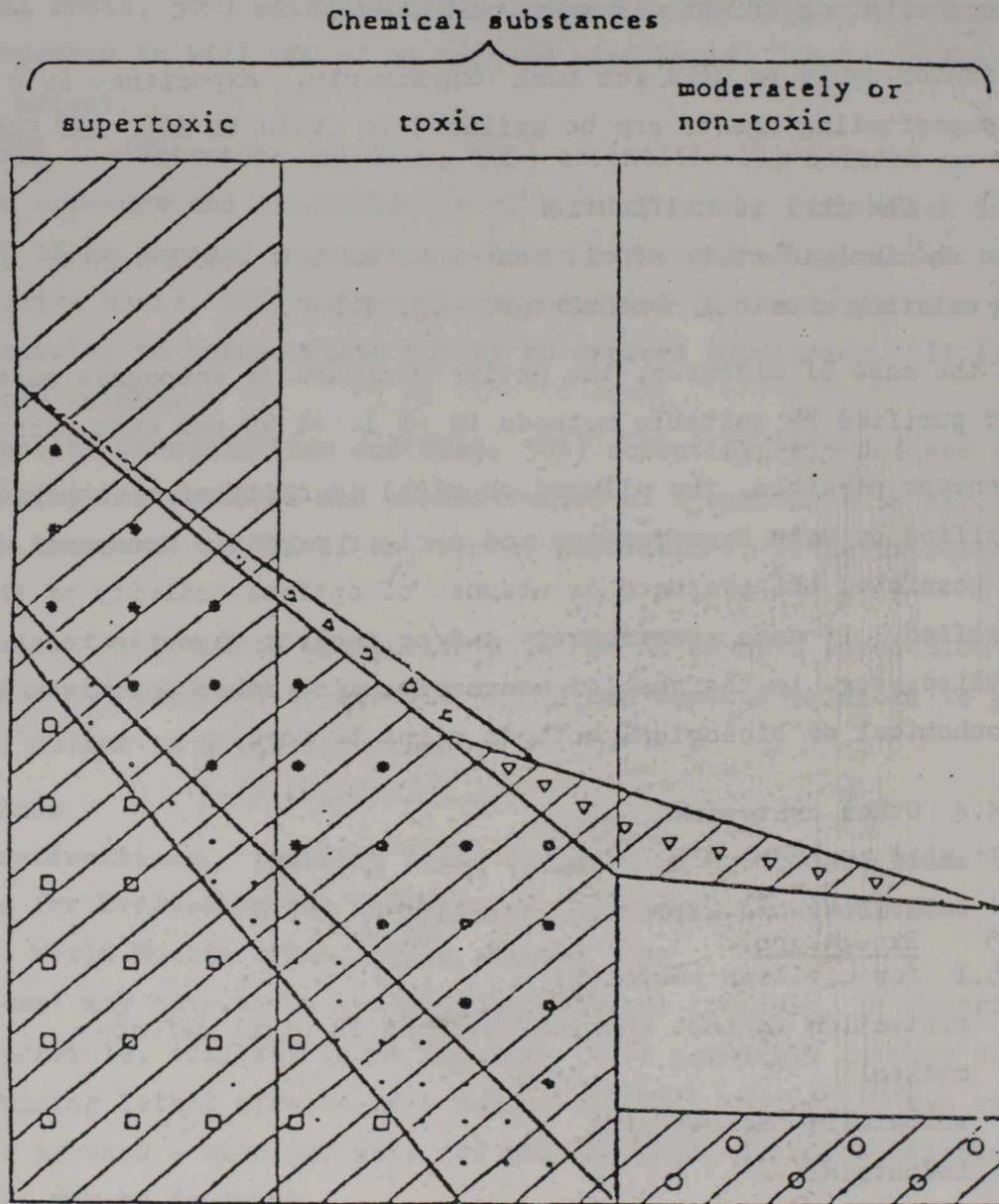
- protection against chemical weapons in civil defence
- medical
- scientific and research
- industrial
- agricultural
- riot control

1.5.2 for certain military purposes:

- protection against chemical weapons
- medical
- riot control

1.5.3 Parties may be allowed an annual production of supertoxic and toxic single-purpose warfare chemical agents together not exceeding one ton for peaceful and protective purposes.

Graphical presentation of relevant chemical substances.



- single purpose chemical warfare agents
- dual purpose chemical warfare agents
- chemical agents
- ▽▽▽▽▽ precursors
- herbicides

Areas which may be subject to verification are lined: ///

Outline suggested by the Chairman of the group.

PART 1

1.1 Change title to

Alternative views regarding the prohibitions.

After Alt. 3. Another etc. add in new paragraph

The alternatives are specified below.

Delete sentence within brackets.

1.4.1, third line substitute

qualified for supplemented

1.4.4 Other criteria: add

- structural formulae for chemical substances

- volatility and explosion stability should read

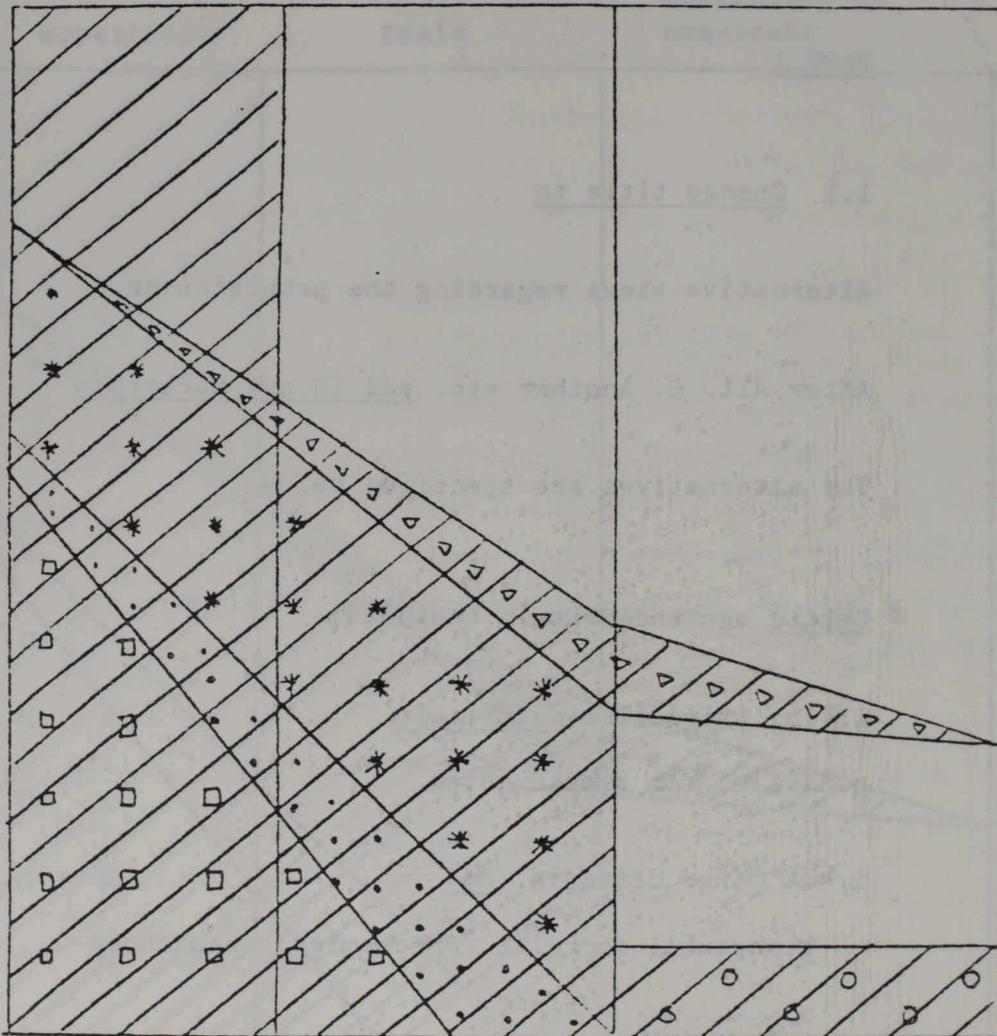
- volatility

- explosion stability

1.5 Exceptions: should read

1.5 Exceptions (relating to exceptions from prohibitions in alternatives 1 - 3 as well as possibly allowed activities):

Page 6. Substitute attached redrawing for diagram



Outline suggested by the Chairman for the work of the group.

PART 2

Implementation of the convention, i.e. declarations and disposal of materials and facilities

2.1 Declarations.

At the time States become parties to the convention concerning the possession (or non possession) of specific materials, facilities and activities and of plans for disposal of materials and facilities.

2.1.1 Materials

2.1.1.1 Chemical warfare agents, stored in bulk or in munition.

Specific rules:

- a) Supertoxic and toxic single-purpose chemical warfare agents (i.a. sarin, soman, VX, mustard gas): declarations may have to be comprehensive, stating also the amount of the agents relating to bulk stockpiles and to munitions, and to be given each year;
- b) Precursors: may have to be declared if they are stockpiled together with the other reactant(s) of a binary set in munition or in bulk for military purposes;
- c) Precursors, which are peculiar, e.g. the phosphorus containing, precursor for binary nerve agents: may have to be declared as supertoxic and toxic singlepurpose warfare agents.

2.1.1.2 Chemical weapons (munition): may have to be declared comprehensive including special warheads intended for but not filled with chemical warfare agents.

2.1.1.3 Weapons systems, designed for the dissemination of chemical warfare agents and chemical munition: may have to be declared comprehensively

2.1.1.4 Location of a State's central stockpiles of chemical warfare agents and chemical munition, both within its territory and, if under its jurisdiction, outside: may have to be declared.

2.1.2 Facilities

2.1.2.1 Production facilities/means of production (including munition filling facilities and facilities related to dual-purpose production).

2.1.2.2 Testing facilities

If such facilities are also used for developing and testing protection against chemical weapons, this may have to be declared.

2.1.2.3 Training facilities (Relates to alt. 2 in 1.1.)

If such facilities are also used for training protection against chemical weapons, this may have to be declared.

2.1.2.4 Other facilities intended to enable the use of chemical weapons, e.g. special transportation equipment. (Relates to alt.2 in 1.1.)

2.1.3 Activities

2.1.3.1 Training and other activities to enable the use of chemical weapons (Relates to alt. 2 in 1.1.)

2.1.4 Plans for destruction, dismantling and converting of materials and facilities, including periodical exchange of statements and notifications concerning the implementation of the plans.

2.2 Destruction, dismantling and conversion

The specific objects, timing issues and verification measures.

2.2.1 Chemical warfare agents

2.2.1.1 Supertoxic and toxic single purpose chemical warfare agents, stored in bulk or in munition: to be destroyed within a specific period of time.

2.2.1.2 Precursors, stored in munition, as well as the more specific compound in each set of precursors, if stored in bulk: may have to be destroyed within a specific period of time.

2.2.1.3 Specific issues concerning verification relating to destruction of chemical warfare agents:

To ascertain that chemical substances brought to a destruction plant really are chemical warfare agents and that the amount of substance brought to the plant corresponds to the given declaration an on-site verification procedure may be necessary.

Such verification procedure could comprise

- 1) measuring the amount of substance delivered and the amount of products obtained;
- 2) toxicity tests on materials delivered and products obtained.

Toxicity tests may have to be performed only in order to determine lethal dosis of the substances delivered to the destruction plant, i.e. to find out whether a substance is a super toxic or toxic chemical warfare agent. Incapacitating agents and precursors could presumably not be monitored in this way. For such substances, chemical analysis could be used to ascertain the identity.

(Organizational aspects on verification relating to the issues covered by Part 2 will be dealt with in Part 3.)

2.2.2 Warheads and other means of disseminating chemical warfare agents in the target, including weapon systems, specifically intended for chemical warfare: to be dismantled and destroyed within a specific period of time.

The amount of chemical weapons etc. brought to a destruction plant may have to be verified.

2.2.3 Production plants/means of production: to be dismantled or, if particular reasons are given, converted to production of other chemical substance within a specific period of time.

2.2.3.1 Specific issues concerning verification relating to dismantling or conversion of production plants/means of production:

To ascertain that the plant etc. really has been used for the production of chemical warfare agents an on-site inspection may be necessary before the pertinent action has begun. The destruction/dismantling procedure may have to be verified in the same way.

As probably some time will elapse between closing a plant and starting the dismantling, the plant may have to be sealed by mechanical means in the meantime. This procedure could be verified by on-site inspection and monitored by remote control.

For a production plant, which has been allowed to be converted to peaceful purposes instead of being destroyed, on-site inspection before and after the conversion may ascertain that the plant

- a) has been used for chemical warfare agent production and
- b) has been converted for production of other chemical compounds.

Such verification may consist of toxicity tests regarding the new product and inspection of the protection level at the converted plant. Furthermore, chemical analysis of waste water and the air around the building may be performed to confirm the permanence of the conversion.

For the perhaps permitted (exempted) production of certain amounts of chemical warfare agents, special facilities could be created, thus no existing production would be left for this purpose. The new plant may have to be under control through on-site inspection, ascertaining that the capacity of a new plant corresponds to the permitted production. (The issue will be further elaborated in Part 3).

2.2.4 Munition filling facilities: may have to be dismantled or converted to be used for filling munitions of a non-chemical warfare nature within a specific period of time.

2.2.4.1 Specific issues concerning verification relating to dismantling or conversion of munition filling facilities:

Verification may be made by the same means as specified for production plants.

2.2.5 Testing and training facilities, e.g. test fields: may have to be destroyed or dismantled unless preserved and used for protective or other purposes, in which case their use may have to be subject to verification measures. (The issue of training facilities relates to alt. 2 in 1.1.)

2.1.1.1. para a) second line insert after "soman"
tabun,

2.1.1.1. after para a) insert new para b):

b) toxic dual purpose chemical warfare agents (i.e. sarin, hydrogen cyanide, chlorine): declarations may concern approximate amounts of each agent, estimation of yearly production and consumption when stored in munitions, the declarations may have to be as comprehensive as for single-toxic and single purpose chemical warfare agents.

After new para b) change

b) to c) and c) to d)

2.1.4. substitute the following for the present text

2.1.4. Other modalities of declarations

2.1.4.1 Timing of declarations

2.1.4.2 Time frames (programmes) of plans for destruction, dismantling and converting of chemical and biological warfare agents

2.1.4.3 Other modalities, including for periodical exchange of notifications concerning the implementation of the plans.

2.2.1.3. last para within () in first line after "Organizational" insert
and procedural

17 March 1981

Original: English

Outline suggested by the Chairman for the work of the group.

PART 2

2.1.1.1, para a) second line insert after "soman"
tabun,

2.1.1.1, after para a) insert new para b):

b) toxic dual purpose chemical warfare agents (i.a. phosgene, hydrogen cyanide, chlorine): declarations may concern approximate amounts of each agent, estimation of yearly production and consumption. When stored in munitions, the declarations may have to be as comprehensive as for super-toxic and single purpose chemical warfare agents.

After new para b) change

b) to c) and c) to d)

2.1.4, substitute the following for the present text

2.1.4. Other modalities of declarations

2.1.4.1 Timing of declarations

2.1.4.2 Time frames (programmes) of plans for destruction, dismantling and converting of materials and facilities

2.1.4.3 Other modalities, including for periodical exchange of notifications concerning the implementation of the plans.

2.2.1.3, last para within () in first line after "Organizational" insert
and procedural

CANADA

WORKING PAPER

VERIFICATION AND CHEMICAL WEAPONS

The problem of verification in chemical weapons disarmament might be contrasted with that of seismic detection of nuclear explosions where a workable detection method is available and an international control organization is being evolved. In the chemical area, no verification methods, either singly or in combination, are considered to be adequate and control organizations have not progressed beyond a general proposal stage. As an illustration of the technical difficulties, the United Kingdom in CCD/502 calculated the sensitivity required of a black box system to detect a "puff dispersion" of 10 kg of chemical agent (155 shell) downwind at the national border. For the most distant case (USSR), borders are 10,000 km downwind from known test ranges and it was concluded that an increase in sensitivity of about three orders of magnitude from the best current methods would be needed for detection. This was unlikely to be attained within the next decade.

For over 10 years negotiations have been underway in the CCD and the CD for an agreement to prohibit the "development production and stockpiling" of chemical weapons. In addition, bilateral discussions have been underway for several years between the USA and USSR to resolve their fundamental differences, particularly in the area of verification. However, while a great deal of information has been collected and most technical points have been thoroughly clarified within these fora, wide differences of position remain and a workable treaty is still a rather distant possibility.

The use of chemical weapons is already prohibited by the General Protocol of 1925. However, many key nations including the USSR and the USA have placed retaliation riders on it. The Protocol does not prohibit the assembly of chemical arsenals, their use in retaliation, or their use against non-signatories. There is also no verification provision in the Geneva Protocol and it functions only through moral restraint and the weight of world opinion. Fortunately, with some minor exceptions, this has generally proven sufficient for the past 60 years particularly during the second World War, but there is some evidence that this restraint is now breaking down.

In 1975 a convention prohibiting the development, production and stockpiling of biological weapons, negotiated through CCD, was adopted under UN auspices. It was thought at the time that biological weapons were rather impractical for use on the battlefield and nations were unlikely to use them whether banned or not so that a verification procedure involving the consultation/cooperation method with recourse to the Security Council was adopted. Consequently, events which were discussed during the first Review Conference of the Treaty in Geneva in March of 1980 have shown the method of verification under present circumstances to be inadequate though of symbolic value.

In contrast to biological weapons, it is generally agreed that chemical weapons could be highly effective on the battlefield. This is one reason why an adequate means of verification must be included in any new treaty. Unfortunately the necessary means are not available and this presents a significant and perhaps overwhelming block to achievement of a convention. This has serious implications in the current world situation as there is evidence of recent transfer of weapons and expertise between nations and big power encouragement of use of chemical weapons by non-signatories of the Geneva Protocol. Further deterioration in the situation could rapidly lead to much wider proliferation of chemical weapons in a time frame which may be much shorter than that needed to resolve current differences and achieve an adequate chemical weapons convention.

In a chemical convention as proposed, there are three specific activities to be banned, development, production, and stockpiling, each of which would require verification, not necessarily by identical mechanisms.

Development includes the entire range of the R and D process. The initial stages could be carried out within standard research laboratories and would be impossible to identify. Eventually hardware development and testing would be necessary and here the UK model in CCD/502 or other technical verification means might be applicable. However, apart from the technical problems, there remains the question of verifying intent as it may not be possible to determine if such testing was for offensive or defensive purposes. It is still generally agreed in the CD that research activities for defensive purposes cannot be banned, although some hold that the need for defensive testing will no longer be supported once a convention comes into effect and would tend to disappear. It would appear that verification of non-development of toxic chemical for warfare

purposes and associated weaponry can only be achieved by the free exchange of information in related areas including a continuous exchange of visits by scientific and other staff so that the development of the necessary technologies and the underlying intent within a country would be evident to others. National means, including intelligence operations, may serve to arouse the suspicions of adversaries, but such sources of information do not necessarily prove the breach of a convention, particularly to the world at large.

The production of chemical agents and weaponry sufficient for use in warfare in contravention of a protocol would require a relatively large clandestine operation. Weaponry could be produced within conventional munitions facilities or hidden elsewhere and this activity could be exposed only by on-site inspection, perhaps by the external detection of quality control testing, or through the inadvertent flow of information from employees or travellers in the site vicinity, etc. to the external monitoring agency. Such verification mechanisms would be extremely difficult where a closed society was involved. The clandestine production of toxic agents would be somewhat more difficult to hide as it would require high containment and extensive peripheral arrangements for safety purposes not only during production, but for storage and transport as well. Existing chemical manufacturing facilities, even those for closely related materials such as insecticides and herbicides would not be adequate for such operations except in a very few recent plants where the necessary high containment may have been installed. The disposal of any wastes in quantity either to the atmosphere or to water systems would provide technically feasible means of detection by outside observers in any situation where relatively near site sampling and inspection is possible. It is possible that new high containment facilities could be constructed and hidden by an offending nation so long as the flow of casual information from the area could be controlled.

Many chemicals other than the current lethal agents may be important in chemical warfare and some means to ensure their non-use for warfare purposes is necessary. A wide variety of industrial and other toxic chemicals are known and with the prohibition of known chemical agents some of these might become quite practical for use in warfare. As all of these are already produced for other purposes (dual purpose agent) they cannot be banned. Some, such as binary components, are not even toxic and may be produced in any available chemical facilities. For all dual purpose chemicals, only their use in warfare and perhaps

their stockpiling for this purpose can be banned. Lists of such materials or a general purpose criteria may be defined within a convention, but here again it becomes a case of verifying intent and the only safeguard is the free flow of people and information between nations.

Various means of economic verification of agent non-production have been proposed over the years, generally involving detailed analysis of the flow of chemicals and products within a country. For the smaller nations, the diversion of raw materials to agent production might be readily evident. However, for the larger industrial societies such as the USA and USSR these diversions might well be lost within statistical errors or the published data could be subtly distorted without detection.

There are two aspects of banning the stockpiling of chemical weapons:

- a) declaration and destruction of existing stocks; and
- b) stockpiling of new stocks.

For those existing stocks which are declared under a formula laid out in a convention and subsequently destroyed at declared sites, verification may just be a matter of periodic inspection and even in a closed society such inspection might be desirable for propaganda purposes. However, it is not likely that destruction could be verified by remote means as new high containment facilities would be constructed. Unfortunately, it is highly unlikely that any means of verification could ever determine the veracity of stock declarations. The storage (or non-storage) of chemical weapons at hidden sites, existing or new, could not be verified by any means. Detailed on-site inspections would be required, but how would an outside control agency know where to look. The problem of verification of new stockpile acquisition relates directly to verification of non-production.

Any solutions to verification in the chemical weapons area are seriously complicated by the political situation. If as initially indicated, remote detection techniques do not provide adequate verification, then it will be necessary to get closer. This means near or on-site inspection. This is one of the outstanding issues between the USA and USSR positions on the convention.

Technically there are a number of ways to obtain proof of agent presence even after the passage of time, if qualified inspectors could approach a suspected site and obtain samples. However, no country contemplating the

contravention of a convention would allow such inspection. Even with respect to actual use, sampling is difficult in a war zone.

Over the years many countries have proposed international verification mechanisms such as an international verification agency, consultative committees, use of the Security Council, ad hoc committees, trained inspection teams, etc, leaving apart the question of who would pay the bill, even a truly international agency would have difficulty gaining permission for on-site access. In their bilateral talks with the USA, the USSR has agreed to some challenge inspection with international participation, but no sample taking. No indication of a mechanism for this has been reported although the USSR have agreed in principle to the possible establishment of a "consultative committee".

A longstanding proposal for verification has been the use of "national means". The establishment of "national verification agencies" to monitor internal compliance has also been proposed. National means presumably includes intelligence operations and satellite observations. This perhaps could be mounted by the USA and USSR, but by few others. Such mechanisms would tend to increase the dependence of lesser nations on the two big powers. It is not clear how a national agency would be allowed sufficient objectivity or freedom to "blow the whistle" on its own government if it were cheating.

A fashionable area of discussion in chemical arms control circles is on "confidence building measures". These are supposedly measures which will hopefully help breakdown barriers to agreement. Unfortunately there has been little meeting of the minds as both the Warsaw Pact and Western nations have tended to propose those activities which would be confidence building to themselves and both sides have tended to reject or not listen to the proposals being presented by the other side. There remains a distinct gulf between the two sides and very little has been achieved so far to build confidence in each other.

As a final footnote on technical verification the UK paper CCD/502, on remote detection of a chemical event in the atmosphere was referenced earlier. Recent developments in the field of mass spectroscopy have improved detection sensitivity by nearly the 3 orders of magnitude required. Under selected circumstances, the detection and identification of toxic agents, 10,000 km downwind may now be just possible though the development of a black box to place at a border is probably a decade away. Even so, not all activities result in the release of a 10 kilogram puff of chemical to the atmosphere and very fortuitous weather conditions would be necessary for a system 10,000 km away to be located at the right time and place to detect an event.

3 March 1981

Original: ENGLISH

Outline suggested by the Chairman for the work of the group.

PART 3

Implementation of the convention, i.e. verification measures and complaints procedures.

3. Verification

The verification measures should be commensurate with the scope of the prohibitions, obligations of destruction, dismantling and conversion and other aspects of the convention in order to provide assurance of compliance with the convention. Such measures may have to be both national and international.

3.1 National verification measures

Such measures may have to be decided in accordance with the provisions of the convention and the States parties' own constitutional procedures.

3.1.2 National means of verification including the use of national technical means of verification may have to be allowed in consistence with generally recognized principles of international law and without hindrance, e.g. through the use of deliberate concealment measures, from other parties.

3.1.3 Parties may have to undertake appropriate internal measures in accordance with their constitutional procedures to prohibit and prevent anywhere under their jurisdiction or control, any activity contrary to the provisions of the convention.

3.2 Scope of international verification measures

3.2.1 At the time States become parties to the convention:

Compliance with obligations concerning destruction, dismantling or conversion into peaceful use of

- stockpiles of warfare agents and weapons specifically intended for chemical warfare
- production facilities/means of production for chemical warfare agents and chemical weapons
- munition filling facilities
- testing and training facilities (The issue of training facilities relates to alt. 2 in 1.1).

3.2.2 Continuously as long as the convention remains in force:

- a) Status of production facilities/means of production which have been converted to peaceful use
- b) Compliance with the prohibitions and other regulations concerning certain activities, materials and facilities (see 1.2), i.a.:
 - non-production of single purpose chemical warfare agents
 - restricted production of dual-purpose chemical warfare agents and some binary chemical weapons precursors
 - non-transfer of knowledge and materials (see 1.2.1)
 - some activities and facilities related to planning, organization and training. (The issue relates to alt. 2 in 1.1)

3.3 International measures and procedures for verification

3.3.1 Declarations and exchange of information.

Parties may have to undertake to declare possession (or non possession) of specific materials, facilities and activities and of plans for disposal of materials and facilities according to 2.1, as well as exchange information on the progress of disposal of stocks and production facilities/means of production. Information may have to be exchanged on permitted production of chemical warfare agents for protective and peaceful purposes.

3.3.2 Consultations

3.3.2.1 Parties may have to undertake to consult each other and to cooperate in solving problems which may arise in relation to the convention.

3.3.2.2 Such consultations could be undertaken bilaterally between the parties concerned, or within the framework of a special procedure established by the convention (see 3.3.3) or within the framework of the United Nations and in accordance with its Charter.

3.3.3 Consultative committee

A consultative committee may have to be established to handle international verification measures at the entry into force of the convention.

3.3.3.1 The committee may be composed of one expert from each State party and with the Secretary-General of the U.N. or his representative as its chairman. It may for specific tasks set up sub-committees and verification teams.

3.3.3.2 The committee may meet for a regular meeting at least once a year and otherwise at the request of a party.

3.3.3.3 The committee may be competent:

- a) to ensure the performance of destruction, dismantling and conversion to peaceful purposes of stockpiles of chemical warfare agents, chemical weapons, production facilities/means of production etc. (see 2.2)
- b) to enquire into facts concerning alleged violations of the convention
- c) to check periodically through on-site visits facilities for permitted production of chemical warfare agents, with respect to amounts produced and their use
- d) facilitate compliance with the convention, e.g. by developing international standardization of methods and routines to be applied by national and international verification organs.

3.3.3.4 The committee may be empowered to request from States parties, international organizations, groups and individuals such information and assistance as may be appropriate and relevant to its work.

3.3.3.5 The parties to the convention may have to undertake to cooperate with the committee in carrying out its tasks.

3.3.3.6 The working rules and procedures of the committee may have to provide for effective, fair, impartial and unobtrusive proceedings.

3.3.3.7 If the committee is unable to provide for a unanimous report on its findings of fact, it will present the different views of the experts involved.

3.3.3.8 In order to carry out its tasks the committee may have to be provided with or have access to specific facilities, such as a secretariat, chemical and toxical laboratories and remote sensing equipment.

3.3.3.9 The committee may be allowed to undertake on-site inspections:

- a) in order to confirm received information concerning planned, on-going or effected destruction, dismantling or conversion, after consultation with the State party concerned (see 3.2.3.3);
- b) in order to enquire into facts concerning alleged ambiguities or violations of the compliance with the convention, provided appropriate reasons have been given in support of the necessity of such an investigation have been provided.

If the requested party does not agree to on-site inspection, it may have to give appropriate explanations that an on-site inspection would at that time jeopardize its supreme interests.

Procedures are to be developed for on-site investigation, including provisions regarding the rights and functions of the inspection personnel, and the rights and functions of the host side.

3.3.4 The Security Council

3.3.4.1 The convention may have to provide for the possibility for States parties to lodge a complaint with the Security Council of the U.N., if they have made unsuccessful efforts of consultation and cooperation pursuant to the relevant

provisions of the convention and have reason to believe that any other State party is acting in breach of obligations under the convention.

3.3.4.2 Parties may then also have to undertake to cooperate in carrying out any investigation which the Security Council may initiate on the basis of the complaint received by the Council.

3.1.1

3.1.1.1 2nd line "compliance" change to
consistency

3.1.1.2 - 1st line " - stockpiles of warfare agents and weapons specifically
intended for chemical warfare" change to
- stockpiles of chemical warfare agents, and these weapons specifically
intended for chemical warfare

3.1.1.3 2nd line after "secretariat" add
technical experts,

3.1.1.4 a) 3rd line "3.1.1.1" change to
3.1.1.1

3.1.1.5 b) 1st line after "ambiguities" add
in

3rd - 4th line delete "have been provided"

last para, 2nd line, after "rights" add
obligations

3.1.4.1 1st line after "Council" add
or General Assembly

11 March 1981

Original: English

Outline suggested by the Chairman of the Group.

Part 3

3.1 National verification measures

Before 1st para add

3.1.1

3.1.2 2nd line "consistence" change to
consistency

3.2.1 1st line " - stockpiles of warfare agents and weapons specifically
intended for chemical warfare" change to
- stockpiles of chemical warfare agents, and those weapons specifically
intended for chemical warfare

3.3.3.8 2nd line after "secretariat" add
technical experts,

3.3.3.9 a) 3rd line "3.2.3.3" change to
3.3.3.3

3.3.3.9 b) 1st line after "ambiguities" add
in

3rd - 4th line delete "have been provided"

last para, 2nd line, after "rights" add
, obligations

3.3.4.1 2nd line after "Council" add
or General Assembly

CD/CW/WP.11
5 March 1981

ENGLISH
Original: RUSSIAN

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

MONGOLIA, POLAND, USSR

Working Paper

Chemical weapons: types of activity to be covered by
a convention on the prohibition of chemical weapons

The delegations of Mongolia, Poland and the USSR wish to express their satisfaction at the fact that, at the beginning of its 1981 session, the Committee on Disarmament decided to re-establish the Ad Hoc Working Group on Chemical Weapons. In so doing, the Committee took into account General Assembly resolution 35/144 B, in which it was urged to continue, ~~as from the beginning of its 1981 session~~ and as a matter of high priority, negotiations on a multilateral convention on the complete and effective prohibition of the development, production and stockpiling of all chemical weapons and of their destruction, taking into account all existing proposals and future initiatives.

The Ad Hoc Working Group has begun its work at the Committee on Disarmament's present session by considering the question of the scope of the prohibition.

In this respect it should be recalled that, in the draft convention on the prohibition of chemical weapons that was submitted to the Committee on Disarmament in 1972 by Bulgaria, the Byelorussian SSR, Czechoslovakia, Hungary, Mongolia, Poland, Romania, the Ukrainian SSR and the Union of Soviet Socialist Republics (CCD/361), the proposed scope of the ban extended to types of activity such as developing, producing, stockpiling, acquiring and retaining chemical weapons and assisting, encouraging or inducing anyone to manufacture or acquire such weapons. In 1973, it was stated in document CD/400, submitted by Argentina, Brazil, Burma, Egypt, Ethiopia, Mexico, Morocco, Nigeria, Sweden and Yugoslavia that: "Discussions in the Committee show a basic agreement on the objective of the negotiations relating to chemical weapons, namely that they should aim, in accordance with relevant United Nations resolutions, at reaching a comprehensive ban, covering the development, production and stockpiling of all chemical weapons, their equipment and means of delivery, as well as the destruction of existing stocks".

Articles I and III of the draft convention which Japan submitted for consideration by the Committee on Disarmament in 1974 (CCD/420) refer to the need for States parties to the future convention to undertake never to develop, produce, stockpile, acquire or retain chemical weapons or transfer them to any recipient whatsoever and not to assist, encourage or induce anyone to manufacture or acquire such weapons.

In addition, all the joint USSR-United States communiqués to the Committee on Disarmament on the progress in the bilateral negotiations on the prohibition of chemical weapons refer to the need for parties to a future convention to assume the obligation never to develop, produce, acquire, stockpile or retain chemical weapons or transfer them to any third party and not to assist, encourage or induce anyone to engage in activities contrary to such undertakings.

These examples show that there is a broad measure of agreement among States concerning the prohibition, in a future convention, of the following types of activity:

- development;
- production;
- acquisition;
- stockpiling;
- retention;
- transfer;
- assistance;
- encouragement and inducement.

In the opinion of the delegations of Mongolia, Poland and the USSR, such an approach is entirely in keeping with the provisions of the Final Document of the tenth special session of the United Nations General Assembly devoted to disarmament.

The same range of prohibited types of activity -- but with one exception, which is mentioned below -- is proposed in the draft convention put forward in 1976 by the United Kingdom.

The proposed extension of the framework of a convention on the prohibition of chemical weapons to include planning organization and training for the use of such weapons of mass destruction is unjustified and unrealistic; it would entail interference in the field of activities by States that relates to the safeguarding of their security and is unrelated to the waging of chemical warfare. Furthermore, such an extension is unnecessary since, with the prohibition of the principal types

of activity connected with the waging of chemical warfare, there will be no need for planning, organization or training for the purposes of such warfare. Consequently, the proposal for such an extension can only complicate the course of the negotiations in the Ad Hoc Working Group, sidetrack its work and raise additional, and perhaps insuperable, difficulties.

The proposal that, in addition to prohibiting types of activity on which there is a broad measure of agreement, the convention should also prohibit the use of chemical weapons is also unacceptable. As is well known, the use of chemical weapons is prohibited by the 1925 Geneva Protocol. Duplication of this important rule of international law in another document could only be prejudicial to that authoritative international agreement.

By taking a firm stand in favour of the complete, effective and verifiable prohibition of the development, production, acquisition by other means, stockpiling and retention of means of chemical warfare, the Ad Hoc Working Group on Chemical Weapons would reduce the number of issues on which the opinions of delegations are divided.

10 March 1981

Original: ENGLISH

Outline suggested by the Chairman for the work of the group.

PART IV

4. Confidence building measures (CBM)

4.1 Object

Voluntary measures to build confidence concerning the serious intentions of States

- a) during the negotiating process and after the convention has been concluded but before it has entered into force;
- b) after the convention has entered into force.

4.2 Examples of CBM's during the negotiating process and after the convention has been concluded but before it has entered into force

4.2.1 Declarations of possession or non-possession of chemical weapons, production facilities, stockpiles and testing facilities and their location.

4.2.2 Invitations to visit stockpiles, testing facilities, production plants - with or without production of chemical warfare agents - and destruction plants.

4.2.3 Measures to facilitate cooperation between States regarding protection for civilian and military personnel.

4.2.4 Exchange of information on and invitations to attend military manoeuvres which include moments related to the use of chemical weapons.

4.2.5 Exchange of information on methods for monitoring the scientific and technical development of concern with respect to chemical weapons.

4.3 Examples of CBM's after the convention has entered into force

4.3.1 Exchange of information on protective measures, military and civilian including, industrial protective measures.

4.3.2 Invitations to cooperative efforts in areas related to the convention.

4.3.3 Exchange of information on results obtained by national technical means of verification .

Outline suggested by the Chairman for the work of the group

PART V

5. International cooperation

5.1 Negative provision(s)

The convention could state that scientific and technical developments for peaceful and protective purposes in fields related to the convention should not be hampered through its provisions.

5.2 Positive provisions

5.2.1 Parties could undertake to exchange information, equipment and materials in order to facilitate the use of chemical agents for peaceful and protective purposes.

5.2.2 The convention could recognize the principle that a substantial portion of the savings from disarmament measures should be devoted to promoting economic and social development, particularly in developing countries.

5.2.3 The convention could provide for assistance in accordance with the U.N. Charter to parties which so request, if the Security Council decides that they have been exposed to danger as a result of a violation of the convention.

Outline suggested by the Chairman for the work of the group

PART VI

6. Formal provisions

6.1 Entry into force

As in the ENMOD Convention it could be stipulated that the convention shall enter into force upon the deposit of instruments of ratification by 20 Governments. For those States whose instruments of ratification or accession are deposited after the entry into force of the convention, it could enter into force on the date of the deposit of their instruments of ratification or accession.

6.2 Signature, ratification, accession

As in the ENMOD Convention it could be stipulated that the convention shall be open to all States for signature - to be subsequently ratified - and that any State which does not sign the convention before its entry into force may accede to it at any time.

6.3 Depositary

As in the ENMOD Convention instruments of ratification or accession could be deposited with the Secretary-General of the United Nations.

6.4 Duration

As in the Biological Weapons and the ENMOD Conventions the convention could be of unlimited duration.

6.5 Withdrawals

As in the Biological Weapons Convention States parties could have the right to withdraw from the convention if they decide that extraordinary events, related to the subject matter of the convention, have jeopardized their supreme interests. Notice of withdrawal could be stipulated three months in advance and would include a statement of the extraordinary events which the notice-giving parties regard as having jeopardized their supreme interests.

6.6 Review conferences

As in the Biological Weapons Convention it could be stipulated that a conference of the States parties should be held at Geneva five years after the entry into force of the convention, or earlier if this is requested by a majority of the parties to review the operation of the convention. Provisions for further review conferences, to be held at intervals of five years thereafter and at other times, if requested by a majority of the parties, could be included in accordance with established practice concerning the Biological Weapons Convention, though in that case such a provision was not specifically included.

6.7 Amendments

As in the Biological Weapons Convention it could be stipulated that amendments, proposed by States parties, shall enter into force for each State party accepting the amendments upon their acceptance by a majority of the States parties and thereafter for each remaining State party, when it accepts them.

6.8 Preamble, annexes and other texts related to the convention

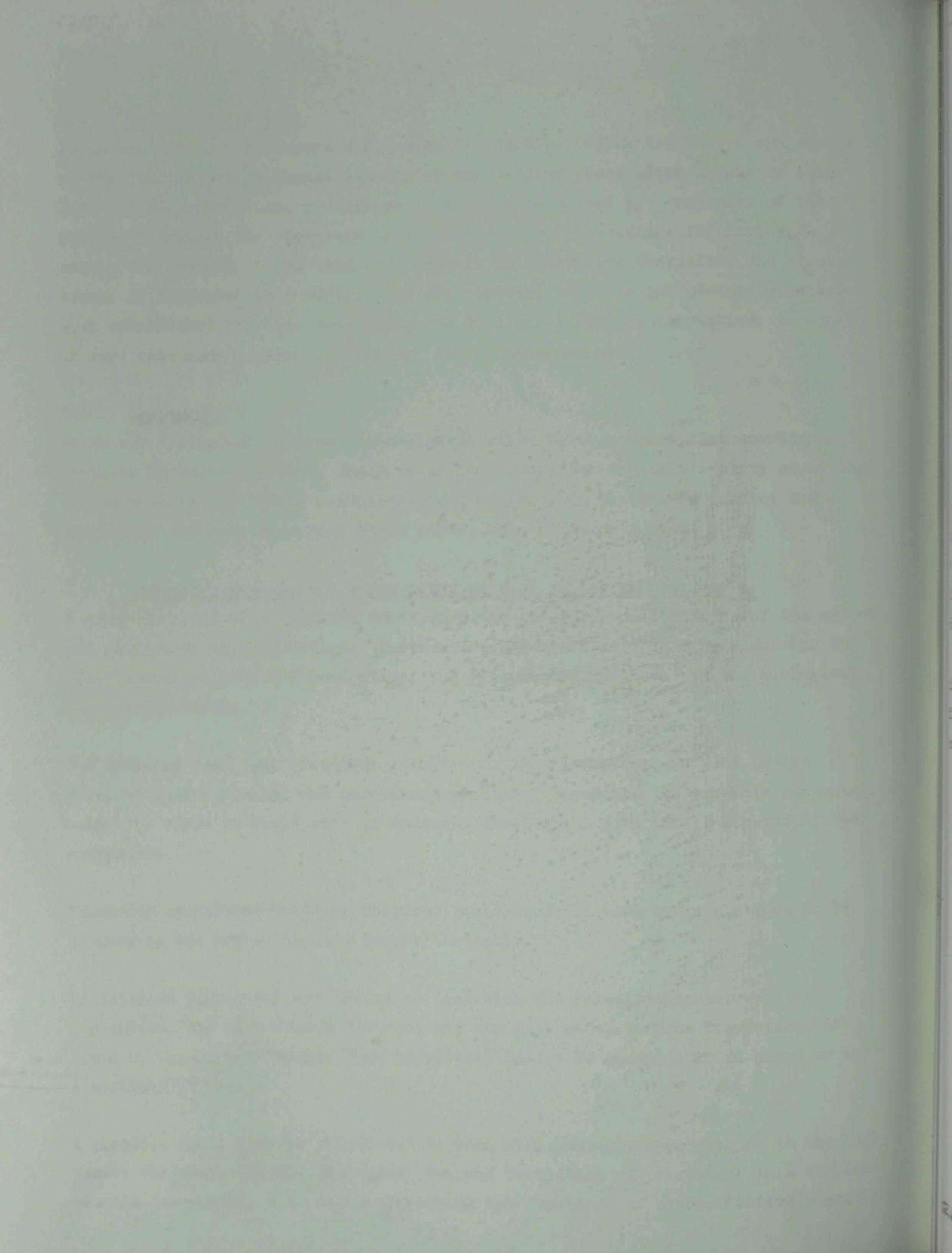
A preamble could be considered expressing the general considerations of the object and purpose of the convention. Furthermore, it could contain a reference to the relationship between the Convention, the 1925 Geneva Protocol and the Biological Weapons Convention.

The detailed technical questions involved in the convention, as well as the detailed organizational and procedural questions regarding the possible consultative committee could be dealt with in annexes, which would form integral parts of the convention.

Voluntary confidence-building measures could be dealt with in resolutions to be adopted by the United Nations General Assembly.

If detailed provisions are needed to deal with the relationship between the convention, the 1925 Geneva Protocol and the Biological Weapons Convention, it could be considered whether such provisions should be embodied in an annex or in a separate protocol.

A protocol could also be considered to deal with possible applications to the 1925 Geneva Protocol, and the Biological Weapons Convention of provisions in a chemical weapons convention, e.g. those concerning the functions of a consultative committee.



CD/CW/WP.15
25 March 1981

ENGLISH
Original: RUSSIAN

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Bulgaria, Hungary, Poland

Working paper

Chemical weapons: definitions

At the present stage in the work of the Ad Hoc Working Group on the Prohibition of Chemical Weapons, the delegations of Bulgaria, Hungary and Poland consider it necessary, for the purposes of the search for mutual understanding, to express their views on the question of the basic definitions to be elaborated and included in the text of the convention on the prohibition of this type of weapon of mass destruction.

As a result of the discussion on this question in the Ad Hoc Working Group in 1980, there appeared to be a general convergence of views that items such as the following could, subject to agreed definitions, be prohibited under the future convention:

- (a) Chemical warfare agents,
- (b) Chemical munitions,
- (c) Precursors,
- (d) Chemical weapons, equipment or systems,
- (e) Means of/facilities for the production of the above.

This point of view coincides to a large extent with the common understandings reached between the USSR and the United States of America (document CD/112) on the need for definitions of the following terms:

- (a) Chemical weapon,
- (b) Super-toxic lethal chemical,
- (c) Other lethal chemical,
- (d) Other harmful chemical,
- (e) Non-hostile purposes.

A clear understanding of these terms would make for effective progress in further work on the identification of areas and questions to be studied for the purposes of the convention. The elaboration of other definitions as well would not of course be excluded if, in the process of preparing the convention, it appeared that they might be useful.

Sometimes the terms "single-purpose agent" and "dual-purpose agent" are used in documents. In part I of the outline suggested by the Chairman for the work of the Group (CD/CW/WP.7), it is proposed that these concepts should be included in the list of basic definitions. The term "single-purpose agent" is used instead of the term "super-toxic lethal chemical", and the term "dual-purpose agent" instead of the terms "other lethal chemical" and "other harmful chemical". But the terms "single-purpose agent" and "dual-purpose agent" are not sufficiently precise from the technical standpoint. In accordance with the general purpose criterion, it would seem that all known other chemicals can in one way or another be regarded as multi-purpose agents since some of them are used extensively for non-hostile purposes, while others are used to a limited and minimal extent -- but nevertheless are used -- for such purposes. The permissibility of using an agreed quantity of any super-toxic lethal chemicals for peaceful purposes and non-hostile military purposes, and also for military purposes not related to the waging of chemical warfare, is generally recognized. In the light of these differences between the terms, the use of the concepts "single-purpose agent" and "dual-purpose agent" is questionable.

At the same time, the idea of very strict control over activities relating to super-toxic lethal chemicals deserves to be supported. In order to place them in a separate group, it is highly desirable to use an additional toxicity criterion-- the median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation), when measured by an agreed method. This toxicity threshold would clearly separate super-toxic lethal chemicals, which are intended primarily for chemical warfare purposes, from all other chemicals including those which are manufactured and used for peaceful purposes.

Different degrees of restrictions and regulations-- but restrictions less severe than those applied to super-toxic lethal chemicals-- could be applied to the group of "other lethal chemicals" which are in many cases used very extensively for peaceful purposes. The same applies to another group of chemicals-- namely, harmful chemicals.

In part I of the outline suggested by the Chairman for the work of the Group, it is proposed that the term "chemical warfare capability" should be also defined. The chemical warfare capability (potential) of a State includes inter alia the planning and organization of chemical warfare and training for chemical warfare. As has already been stated in document CD/CW/AF.11, inclusion of these activities among the activities to be prohibited under the convention is unjustified and unrealistic. It would entail interference in activities by States that relate to the safeguarding of their security and are not related to the waging of chemical warfare.

...

The purpose of this report is to provide a detailed account of the activities of the committee during the year 1917. The committee was organized on January 1, 1917, and has since that time been engaged in a study of the various problems connected with the administration of the government. The committee has held numerous public hearings and has received many suggestions from the public. It has also conducted extensive research into the various subjects mentioned in the report. The results of this research are set forth in the following chapters.

...

...

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

FRANCE

Working paper

Declarations and destruction of materials and facilities
(Comments on the outline suggested by the Chairman, Part 2)

The procedures to be provided for the implementation of the convention must reconcile two objectives: ensuring that the implementation is effective and can be verified, and not compromising the security of States during the transition period between the entry into force of the convention and the total elimination of chemical weapons. States cannot be asked, for example, to declare the composition and location of their stockpiles of chemical weapons, if any, immediately upon the convention's entry into force. But the same is not true with respect to declarations regarding chemical weapons production and munition-filling facilities since they must cease all activity as soon as the convention enters into force. The declarations ought therefore to be made in several stages.

I. DECLARATIONS (2.1)

1. At the time the country becomes a party

General declaration concerning the possession or non-possession of chemical weapons.

2. Subsequent declarations

(a) Facilities (2.1.2)

Declaration, upon the entry into force of the convention, of facilities for the manufacture of toxic single-purpose or supertoxic agents, and of chemical weapons filling sheds. The declaration must state the exact location. Seals must be affixed as soon as the convention enters into force and a system of supervision (black box), monitored every year until destruction, must be installed. An estimated timetable for destruction is to be provided at the same time. Conversion to civil purposes cannot be accepted, because reconversion is too easy. Such conversion also seems rather impractical and unprofitable. Conversion of a production facility to a plant for the destruction of chemical agents or munitions might perhaps be permitted. A time-limit for destruction must be set by the convention.

(b) Specific weapons system (2.1.1.3)

Specific weapons systems designed for the activation of chemical warfare agents are to be declared in very specific terms as soon as the convention enters into force and assembled at a single place, the location of which must be declared. Their destruction must start as soon as possible and be completed within a limited period of time laid down by the convention.

(c) Chemical munitions (2.1.1.2)

On the entry into force of the convention, declaration of the total tonnage by type of munitions and type of agent, and submission of an estimated destruction schedule.

Annual submission of a detailed destruction schedule including, inter alia, the composition (quantity of munitions, nature of chemical agents) of the stockpile to be destroyed and its location or that of the destruction site.

(d) Chemical warfare agents in bulk (2.1.1.1.a)

On entry into force of the convention, declaration of total tonnage, by type of agent.

The detailed declaration is to be made later, at the time of submission of the destruction schedule indicating, inter alia, the nature of the stockpile (quantity, nature of the chemical agents) and its exact location or that of the destruction site. Their destruction must start as soon as possible and be completed within a period of time laid down by the convention.

(e) Specific precursors (2.1.1.1.c)

These products are to be declared; in principle, they should be destroyed, but conversion to peaceful purposes could be envisaged.

The declaration will have to state which option has been chosen.

II. DESTRUCTION (2.2)

It is essential that a verification procedure should be established in situ throughout the period of destruction of agents, munitions and weapons systems or, where appropriate, of the conversion of specific precursors to peaceful purposes. It should comprise for lethal toxic agents at least:

Verification of the quantities destroyed (weapons, agents and weapons systems);

Verification of the nature of the toxic agent and, where this is not possible, determination of its toxicity;

Verification of declarations.

The destruction of facilities does not require the presence of "monitors" during the destruction operations. All that will have to be verified on the spot

is the actual destruction of essential equipment. In addition, after the complete destruction of the facilities, it will be necessary to verify through a detailed on-the-spot inspection that the destruction has really been carried out.

It is again emphasized that all facilities for the manufacture of supertoxic or single-purpose toxic agents and all filling sheds must be destroyed. Only facilities for the manufacture of specific precursors might perhaps be given the possibility of conversion. The same applies to filling sheds for binary munitions.

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

FRANCE

Chemical weapons - definitions, criteria

The exchanges of views that took place on 25 March 1981 at the meeting of the Working Group on Chemical Weapons showed the need to deal with the problems arising in matters connected with definitions and criteria in an orderly manner.

It became clear that it was essential to confine the definitions to the precise terms that would appear in a possible convention, that they should not be open to any interpretation and that the criteria for definition should be universally accepted, unambiguous and not capable of changing in the course of time.

The French delegation is very largely in agreement with these views and offers the following comments.

Chemical products that can be used in warfare are of various kinds according to the target chosen and the effect intended. It is, however, undeniable that the major target remains man, and it is this aspect of chemical warfare that is still the most important. The effects aimed at are of two kinds, destruction or temporary disablement. Obviously only the first of these can provide immediate and lasting military advantages.

We can therefore classify these products in the order of the danger they present as:

Lethal products;

Products that reduce the operational capability of the combatant.

Lethal products may be divided into supertoxic agents, which have great toxic power, whose use in chemical warfare has a high probability and which can afford substantial military advantages, and lethal toxic agents, whose toxic power is less and whose use in warfare is less likely but possible, with, however, less certain results.

Products that reduce the operational capability of the combatant are either physical or mental incapacitants or irritants. Their use in warfare, which is in fact prohibited by the 1925 Geneva Protocol, does not appear necessarily to provide a clear military advantage compared with the use of what are called conventional weapons.

Lethal chemical products therefore remain the most dangerous, and it is these products which must be defined first.

Most chemical products are dangerous for man and many of them can be used in warfare. Apart from the fact that the first use of chemical weapons would be a violation of the rules of war (1925 Geneva Protocol), chemical warfare operations are generally more difficult to carry out than conventional operations; it is therefore reasonable to think that such operations will be carried out only if they bring an immediate and appreciable advantage. It would therefore be advisable, before anything else, to define the criterion or the criteria for establishing the limit up to which the use of such products in warfare is very unlikely. On the basis of this limit, it will be possible to define the products the use of which is possible and those the use of which is probable. This definition will be based primarily on toxicity criteria. These criteria are to be determined according to the route by which the toxic agent penetrates into the body:

Inhalation toxicity, when the toxic agent penetrates through the respiratory organs; expressed in LCt_{50} ;

Percutaneous toxicity, when the toxic agent penetrates through the skin; expressed in LD_{50} .

Intraperitoneal-injection toxicity, when the toxic agent is injected into the body by means of specific munitions (shrapnel shells, shells with pellets, flechette shells, etc.); expressed in LD_{50} .

These types of toxicity will have to be measured by a method recognized by all States parties to the Convention. Tests will in any event be carried out on animals, but the results will have to be extrapolated to man. The French delegation believes that only the latter are to be taken into account.

Whenever possible, the toxic agents or class of toxic agent will be defined by another unambiguous criterion or other unambiguous criteria. In the case of organophosphorus supertoxic agents, the French delegation believes that the structure criterion proposed by the Netherlands is excellent, since it enables the specific precursors of these products to be monitored at the same time.

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

AUSTRALIA

Initial Comments on the Consolidated Outline suggested by
the Chairman of the Ad Hoc Working Group on Chemical Weapons

The Australian delegation has the following initial comments on Parts 1 to 3 of Annex I to CD/CW/CRP.10 - some of these comments are substantive and others are aimed solely at streamlining the text. Where appropriate textual changes are submitted, with an explanation.

Part 1

- 1.2.3.1 delete "chemical warfare agents" throughout and substitute "chemicals"
. the concept of "warfare agents" is descriptive and imprecise.
- 1.2.3.1 (c) delete "(insecticides, etc.)"
. insecticides, by design, have minimal mammalian toxicity and therefore are a poor example of dual purpose chemicals
- cyanide and phosgene are more illustrative.
- (d) delete "others, (herbicides, etc.)"
. the prohibition should be based on purpose and toxicity
(see comments for 1.4.1 below)
- 1.3 general comment: this section is longer and less precise than equivalent section of CD/112 which has very serviceable definitions.
- 1.3.1 delete. "Agent" should be deleted and the article could then say 'a chemical is a chemical': in fact it confusingly says more than this
- 1.3.2 delete (see comments for 1.4.1 below)
- 1.4.1 delete "(a)" and the whole of (b)
. Prominence should be given to the essential criterion of the ban - the general purpose criterion. This should be supplemented by toxicity criteria (1.4.3). As in fact follows in the remainder of 1.4, the term "chemical" can then be used more simply and effectively than "chemical warfare agent".
- 1.4.3.1 (b) delete "may have to" and replace with "should" to read "toxicity tests should be performed on pure substance"
delete "mice and rats of well-defined, easily available strains" and replace with "e.g. mice, rats, rabbits, guinea pigs"
. specialized rodents would be inadequate for this purpose
- 1.5.3 delete "together not exceeding one ton". Add to this paragraph another sentence: "Parties should declare and justify their annual requirements."

Part 2

- 2.1.1.1 delete "warfare agents" here and elsewhere
- (b) delete second sentence and rephrase whole paragraph to read "toxic dual purpose chemicals to be declared if stored in munitions."
- . the civilian production annually of chemicals like phosgene, hydrogen cyanide and chlorine is so great that military stockpiles would represent a very small percentage.
 - . Declarations (and verification) should be commensurate with the ban (see first point in part 3): provisions concerning chemicals of medium toxicity need not be as comprehensive as for supertoxic chemicals.
- 2.1.1.3 delete
- . or amalgamate with 2.1.1.2, which is the same point
- 2.1.2/2.1.2.1 amalgamate
- 2.1.4.1/2.1.4.2 amalgamate
- 2.2 delete "or conversion"
- . this concept should not be permitted in the treaty. No justification has been found for it and it enormously complicates verification. The alternative in the final paragraph of 2.2.3.1 is the acceptable one.
- 2.2.1/2.2.1.1 amalgamate
- 2.2.3.1 delete references to conversion
- 2.2.4.1 delete
- . not worth saying here

Part 3

- 3.2.2 (a) delete
- . see 2.2 above
- 3.3.1 delete declarations element, which has been dealt with
- 3.3.3.6 delete (hardly worth saying)
- 3.3.3.9 (b) delete second paragraph and replace with "A requested party opposed to an on-site inspection should provide full information to the Committee relating to its compliance with the convention."

Additional points

The Australian delegation would like to register for consideration the following points relating to the text in Annex I of CRP.10:-

- 1.2.2 "development and testing facilities" raises the question of testing for defensive purposes - we would not like to see a ban on the testing for instance of respirators.
- 2.1.2.2 a similar point can be made against this paragraph, which we would prefer to see deleted. There should be no ban on protective measures, which may be the best deterrence, at least until the destruction of all CW stocks. The general purpose criterion may assist in distinguishing legitimate protective testing.
- 2.1.2.4 although this point relates to alternative 2 (which we do not favour) it is relevant that special transportation equipment and other facilities under this heading may also be required for demilitarization purposes.

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

Note by the Chairman

In order to provide a starting point for the further substantive work in the second part of this session towards achieving a convention on chemical weapons the Chairman intends to present a series of draft elements, the first of which -- concerning the scope of the convention -- are annexed hereto. More elements will follow in due course.

The Chairman would like to invite the Delegations to present their comments and, where they deem it appropriate, proposals for amendments with a view to providing a basis, on which efforts can be made to clarify the issues further and to widen the areas of agreement and narrow the differences.

In Annex 1, I have

GE.81-61514

Suggestions by the Chairman of the Working Group on Chemical Weapons
for elements of a chemical weapons convention.

I

Each State Party to this Convention undertakes never, under any circumstances to develop, produce, otherwise acquire, stockpile or retain:

(a) super-toxic lethal, other lethal or other harmful chemicals, or precursors of such chemicals, for other than non-hostile purposes or military purposes not involving the utilization of the toxic properties of such chemicals as weapons, provided their types and quantities are consistent with such purposes;

(b) munitions or devices specifically designed to cause death or other harm through the toxic properties of the chemicals released from them, or equipment specifically designed for use directly in connection with the employment of such munitions or devices.

Definitions of chemical weapons, supertoxic lethal chemicals, other lethal chemicals, other harmful chemicals, precursors and non-hostile purposes are given in Annex 1.

II

Each State Party to this Convention undertakes never, under any circumstances:

(a) to transfer to anyone, directly or indirectly, any chemical weapons;

(b) to transfer to anyone, directly or indirectly, except to another State Party, any supertoxic lethal chemicals produced or otherwise acquired for permitted purposes, of types and in quantities which are suitable for chemical weapons purposes;

(c) to assist, encourage or induce, directly or indirectly, any person, organization, State, or group thereof, to engage in activities which the State Party itself would be obligated to refrain from under the Convention.

III

Each State Party to this Convention undertakes to declare:

(a) its stocks of chemical weapons and means of production of such weapons;

(b) its plans for the destruction or, where appropriate, diversion for permitted purposes of declared stocks of chemical weapons;

(c) its plans for the destruction or dismantling of relevant means of production.

Matters concerning the timing, content and form of such declarations are set forth in Annex 2.

IV

Each State Party to this Convention undertakes to:

- (a) destroy or divert for permitted purposes its stocks of chemical weapons;
- (b) destroy or dismantle its means of production of chemical weapons, or to convert them temporarily, before final destruction or dismantling, for the purpose of destroying its stocks of such weapons.

Matters concerning the timing and procedures, including exchanges of statements and notifications, for destruction and diversion for permitted purposes of stocks or chemical weapons, as well as destruction, dismantling and temporary conversion of means of production of chemical weapons are set forth in Annex 3.

Suggestions by the Chairman of the Working Group on Chemical Weapons
for elements of a chemical weapons convention

ANNEX I

Definitions and criteria

1. The definitions, criteria and methods in this Annex have been agreed upon for the purpose of this Convention.
2. "Chemical weapons" and "other means of chemical warfare" are chemicals, munitions, devices or equipment that would be covered by the obligations outlined in article I of this Convention.
3. A "super-toxic lethal chemical" is any toxic chemical whatever its origin with a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation), when measured by the methods set forth in paragraph 9 of this Annex.
4. Any "other lethal chemical" is any toxic chemical whatever its origin with a median lethal dose which is greater than 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation) and which is less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the methods set forth in paragraph 9 of this Annex.
5. Any "other harmful chemical" is any toxic chemical whatever its origin with a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the methods set forth in paragraph 9 of this Annex.
6. "Precursors" are sets of chemicals, which not necessarily themselves are super-toxic lethal, toxic lethal or other harmful chemicals, but which, when made to react chemically with each other, form among others also such chemicals as are mentioned in paragraphs 2 - 5 of this Annex. Usually one or some of the precursors in a set of chemicals forming supertoxic lethal chemicals have none or little use for production of other chemicals. They are referred to in this Annex as unique precursors.
7. "Non-hostile purposes" are any industrial, agricultural, research, medical or other peaceful purposes law-enforcement purposes, or purposes directly related to protection against chemical weapons. Together with military purposes not involving the use of chemical weapons non-hostile purposes are referred to as permitted purposes.
8. "Means of production" are any facilities capable of producing chemicals for non-permitted purposes.
9. Methods for toxicity determinations and identification of chemicals.
 - (a) /to be agreed on/
 - (b) -"-
 - (c) -"-

ANNEX IIDeclarations of possession of stocks of chemical weapons and means of production of chemical weapons, plans for their destruction or diversion for permitted purposes and time frames and forms for making such declarations

1. Each State Party to the Convention undertakes to declare within 30 days after the Convention has entered into force or the State Party adhered to the Convention.

(a) possession of chemical weapons and other means of chemical warfare. The declaration should contain information about types* and amounts of such weapons and means;

(b) location of stocks, location and capacity of means of production*, including specialized facility for permitted production of super-toxic lethal chemicals, and location of testing facilities;

(c) plans for the destruction or, where appropriate, diversion for permitted purposes of declared stocks of chemical weapons and means of chemical warfare and plans for the destruction and dismantling of the means of their production and/or testing facilities. The declarations should contain information about the volume of the stocks and means to be destroyed or diverted and the timing of the activities, including so-called "mothballing" of means of production and localization of destruction facilities. Detailed information on the actual destruction, dismantling or diversion activities should be given not later than one year before the start of the process unless this is planned to take place within one year after the Convention has entered into force or the State Party adhered to the Convention.

* The following are examples of chemical weapons and other means of chemical warfare and means of their production:

Supertoxic lethal chemicals: tabun, sarin, soman VX, mustard gas, and unique precursors for the production of such chemicals.

Other lethal chemicals: phosgene, hydrogen cyanide, chlorine.

(d) if according to article IV (b) of the Convention, a State Party wishes to convert, temporarily, a production facility to a destruction facility, it shall declare the reasons for this, a time plan for the conversion, for the destruction activities and for the final dismantling of the converted facility.

2. Each State Party to the Convention undertakes to declare on a yearly basis the progress of destruction or diversion of its chemical weapons and other means of chemical warfare and the destruction and dismantling of their means of production and testing facilities until it is able to issue a declaration confirming the final abolition of the State Party's stocks and means of production (see Annex III, paras 1 & 2).

3. Declarations as stipulated in paragraph 1 and 2 of this Annex shall be forwarded to the Depositary, who shall distribute them to the other States Parties to the Convention within one week after having received them.

Declarations shall be sufficiently informative to allow independent verification of the information by national and international means of verification available to other States Parties to the Convention. (See Annex IV, para. 1)

* Footnote continued

Other harmful chemicals: BZ, tear gases.

Munitions containing the above chemicals or intended to be filled by them.

Bulk stocks of the above chemicals unless stockpiled for permitted purposes.

Equipment and means of delivery intended exclusively for the use of the chemicals mentioned above as chemical weapons.

Means of production: production facilities aimed at non-permitted production of chemicals as exemplified above, facilities for filling munition with the above chemicals and for the exclusive production of shells etc. intended to be filled by them.

Testing facilities: technical facilities, including test fields, aimed at evaluating use of chemicals for non-permitted purposes.

ANNEX IIIDestruction, dismantling or diversion for permitted purposes
of declared stocks of chemical weapons and their means of production

1. Destruction or diversion for permitted purposes of declared stocks of chemical weapons and other means of chemical warfare shall be completed within ten years after the entry into force of this Convention. Preparations shall start immediately after the entry into force of the Convention.
2. Destruction and dismantling of declared means of production and testing facilities shall be completed within ten years after the entry into force of this Convention. So-called mothballing of means of production shall be undertaken immediately upon entering into force of the Convention and remain until their destruction or dismantling or diversion for permitted purposes begins.
3. The provisions given in article IV of this Convention and its Annex 3 shall be performed in a manner allowing its verification according to the provisions given in article ... of this Convention.
4. States adhering to the Convention after it has entered into force, and which would have to fulfil the provisions in article IV and Annex 3 of this Convention shall do that as soon as is technically possible and not later than ten years after they become Party to the Convention.

Suggestions by the Chairman of the Working Group on Chemical Weapons
for elements of a chemical weapons convention

V

Relationship with other treaties

Nothing in this Convention shall be interpreted as in any way limiting or detracting from the 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 June 17, 1925, or under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and in Their Destruction, opened for signature on April 10, 1972, any other international treaty or any existing rules of international law governing armed conflicts.

VI

International cooperation

- (1) Each State Party to this Convention undertakes to facilitate, and has the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of chemicals for peaceful and protective purposes.
- (2) Each State Party to this Convention undertakes to allocate a substantial part of possible savings in military expenditures as a result of disarmament measures agreed upon in this Convention to economic and social development, particularly for the benefit of the developing countries.
- (3) This Convention shall be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful and protective chemical activities, including the international exchange of chemicals and equipment for the production, processing or use of chemical agents for peaceful and protective purposes in accordance with the provisions of the Convention.

VII

Verification measures and complaints procedures

- 1) Each State Party to this Convention undertakes to take any measures it considers necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control.
- 2) Each State Party to this Convention may use national means of verification, including national technical means, at its disposal for the purpose of monitoring compliance with the provisions of this Convention in as far as it would be consistent with generally recognized principles of international law.
- 3) Each State Party to this Convention undertakes not to impede, including through the use of deliberate concealment measures, the national technical means of verification of other States Parties operating in accordance with paragraph 2 of this article.

VIII

Consultation and cooperation

- 1) The States Parties to this Convention undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of, the Convention.
- 2) Consultation and cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. These international procedures include the services of appropriate international organizations, as well as of a Consultative Committee of Experts, as provided for in article IX.

IX

Consultative Committee

- 1) For the purpose of providing a permanent body to ensure the availability of international data and expert advice for assessing compliance with the provisions of this Convention a Consultative Committee of Experts shall be established at the entry into force of this Convention. Each State Party to the Convention may appoint one representative to this Committee.

- 2) The Depositary or his personal representative shall serve as President of the Committee and convene it at least once a year, or otherwise immediately upon receipt of a request from any State Party to this Convention.
- 3) Each State Party to this Convention undertakes to cooperate with the Committee in carrying out its tasks.
- 4) The functions, organization and procedures of the Committee are set forth in Annex 4.

X

Amendments

Any State Party may propose amendments to this Convention. Amendments shall enter into force for each State Party accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party on the date of acceptance by it.

XI

Review conferences

- 1) Five years after the entry into force of this Convention, or earlier if it is requested by a majority of Parties to the Convention by submitting a proposal to this effect to the Depositary, a conference of States Parties to the Convention shall be held at Geneva, Switzerland, to review the operation of the Convention, with a view to assuring that the purposes of the Convention are being realized. Such review shall take into account any new scientific and technological developments relevant to the Convention. Proposed amendments to the Convention may also be considered at the Conference.
- 2) Further review conferences shall be held at intervals of five years thereafter, and at other times if requested by a majority of the States Parties to this Convention.

XIII

Duration and withdrawals

- 1) This Convention shall be of unlimited duration.
- 2) Each State Party to this Convention shall in exercising its national sovereignty have the right to withdraw from the Convention, if it decides that extraordinary events related to the subject matter of the Convention, have jeopardized its supreme interests. It shall give notice of such withdrawal to the Depositary three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

XIII

Signature, ratification, accession

- 1) This Convention shall be open to all States for signature. Any State which does not sign the Convention before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.
- 2) This Convention shall be subject to ratification by signatory States. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.
- 3) This Convention shall enter into force upon the deposit of instruments of ratification by twenty Governments, in accordance with paragraph 2 of this article.
- 4) For those States whose instruments of ratification or accession are deposited after the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.
- 5) The Depositary shall promptly inform all signatory States and States Parties the date of each signature, the date of deposit of each instrument of ratification or accession and the date of the entry into force of this Convention and of any amendments thereto, as well as of the receipt of other notices.
- 6) This Convention shall be registered by the Depositary in accordance with Article 102 of the Charter of the United Nations.

XIV

Distribution of the Convention

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, who shall send duly certified copies thereof to the Governments of States members of the United Nations and its Specialized Agencies.

ANNEX IV

Consultative Committee of Experts

- 1) The Consultative Committee of Experts shall be competent to:
 - (a) oversee the destruction and diversion for permitted purposes of stocks of chemical weapons, as well as the destruction, dismantling and temporary conversion of means of production of chemical weapons as stipulated in article IV of this Convention;
 - (b) enquire into facts concerning alleged ambiguities in or violations of the compliance with the Convention;
 - (c) check periodically permitted production of chemicals with respect to amounts produced and their use;
 - (d) facilitate compliance with the Convention, e.g. by developing international standardization of methods and routines to be applied by national and international verification organs;
 - (e) make appropriate findings of fact and provide expert views relevant to other problems raised pursuant to the provisions of the Convention by a State Party.
- 2) Each representative shall have the right, through the Chairman, to request from States Parties, and from international organizations, such information and assistance as the representative considers desirable for the accomplishment of the Committee's work.
- 3) The Committee shall be allowed to undertake on-site inspections:
 - (a) in order to confirm received information concerning planned, on-going or effected measures according to sub-paragraph 1 (a) of this Annex;
 - (b) in order to enquire into facts concerning alleged ambiguities or violations according to sub-paragraph 1 (b) of this Annex;
 - (c) in order to carry out checks according to sub-paragraph 1 (c) of this Annex.On-site inspection shall take place only after consultation with the State Party concerned. If that State Party does not agree to on-site inspection, it must give appropriate explanations to the effect that an on-site inspection would at that time jeopardize its supreme interests.
- 4) The work of the Committee shall be organized in such a way as to permit it to perform the functions set forth in paragraph 1 of this Annex in an effective, fair and impartial manner. It may for specific tasks set up sub-committees and verification teams. The Committee shall decide procedural questions relative to the organization of its work, where possible by consensus, but otherwise by a majority of those present and

voting. There shall be no voting on matters of substance. If the Committee is unable to provide for a unanimous report on findings of fact or in giving expert views, it shall present the different views of the experts involved.

5) Each representative may be assisted by one or more advisers.

6) The Committee shall be provided with or have access to specific facilities, such as secretariat, technical experts, chemical and toxicological laboratories and remote sensing equipment. The expenses of the Committee will be borne by the United Nations and the States Parties in such a manner as will be decided by the General Assembly in consultations with the States Parties.

7) The Committee shall present an annual report of its activities to the States Parties to the Convention. The Committee shall further, whenever it has been requested by a State Party to carry out fact-finding or provide expert views concerning a specific question, transmit to the Depositary a summary of its findings or expert views, incorporating all views and information presented to the Committee during its proceedings. The Depositary shall distribute the summary to all States Parties.

Report of the Chairman of the Working Group on Chemical Weapons on the consultations held on issues relating to toxicity determinations

INTRODUCTION

1. The consultations were held in the week from 6 to 10 July 1981 and the following agenda, together with the Chairman's suggestions for a time-table as set forth in document CD/CW/CRP.12, was adopted to structure the discussions.
 1. Conceptual aspects
 2. International recommendations
 3. Extrapolation to man
 4. The technical performance of toxicity determinations
 5. Application of toxicity determinations in a convention
2. Twenty-nine experts from 24 countries participated in the consultations of the Chairman with delegations. (See Annex I for the list of experts.)
3. Twelve background papers on various technical aspects were presented in the course of consultations. (See Annex II for the list of background papers.) On request, these are available from the Secretariat of the Committee on Disarmament in the original language versions.
4. International reference material was circulated (for list see Annex III) and a number of relevant publications were drawn to the attention of the participants with indications that copies of these could be obtained from the Secretariat of the Organisations which published them (for the list of these publications see Annex IV).
5. At the invitation of the Chairman, Professor M. Mercier, Manager of the International Programme on Chemical Safety of the World Health Organisation presented his programme on 7 July 1981. Dr. J. Parizek, from the WHO's International Programme on Chemical Safety, provided additional information and reference material on 8 July 1981.
6. A presentation was made to the group concerning a system for remote continual verification for nuclear safeguards purposes. This system is being developed and tested in an international demonstration project involving seven countries and the International Atomic Energy Agency. The speaker noted that this technology might have some applications in verification of a chemical weapons convention, although this would require further study.

VIEWS PUT FORTH ON CONCEPTUAL AND TECHNICAL QUESTIONS
RELATED TO TOXICITY DETERMINATIONS FOR THE PURPOSE OF
A CHEMICAL WEAPONS CONVENTION

A) Conceptual aspects

7. From a technical standpoint, toxicity criteria based on acute lethal toxicity measurements could be useful in a CW Convention as a supplement to the general purpose criterion.

8. Such criteria might serve two main purposes, to help define the scope of the convention and to be used for verification purposes. The former purpose also includes application of the provisions of the Convention to new substances.

9. To ensure that sufficiently reliable toxicity data are available it would be necessary to agree upon the testing procedures to be employed.

B) International recommendations

10. The recognized need for standardized methods for toxicity determinations led to an inventory of existing standard procedures for toxicity determination. In addition to the principles and methods contained in the WHO publication Environmental Health Criteria 6, Principles and Methods for Evaluating the Toxicity of Chemicals, Part I, the OECD has for its part adopted guidelines for good laboratory practice and a number of protocols for different types of toxicity tests. In addition, a number of countries have adopted standard methods for internal purposes. Some principles and methods for toxicity determinations, are set forth in a number of documents (see Annex III).

11. It was generally felt that a good scientific, technical and methodological basis existed to make it possible to reach suitable testing procedures for a chemical weapons convention. The need was expressed for standardized methods for screening purposes but such methods seemed not to appear in the material presented on international recommendations. For detailed inhalation toxicity tests the WHO publication Environmental Health Criteria 6, Chapter 6, and the OECD guidelines were found to be a good basis for discussion. Although there is no international standardized detailed protocol for measuring toxicity by injection a consensus on this point does not seem to be difficult to reach.

C) Extrapolation to man

12. The extrapolation of toxicity data from animals to man was discussed. It was felt that for the purpose of the convention it would not be necessary to make such extrapolations since the toxicity data were mainly intended for classification of chemicals in different groups, and there appears to be a general positive correlation between lethal toxicity in test animals and that in human beings.

The toxicity values for supertoxic lethal, or other lethal and other harmful chemicals given in CD/112 were considered a suitable starting point for the purpose. This did not mean, however, that ambiguities could not arise in particular cases. This had to be discussed further.

D) The technical performance of toxicity determinations

13. The precision and complexity of different possible methods will have to be decided upon taking into account the purpose of the methods.
14. There was general agreement that the methods should be relatively simple. For the purposes of placing chemicals in categories a screening test would normally be sufficient. However, for cases in which the appropriate category was difficult to determine, more elaborate procedures would be necessary. Specific suggestions were made for simple, standardized methods for the toxicity determinations themselves.
15. It was generally accepted that such standardized methods should rely on administration of the test substances by subcutaneous injection, and when necessary by inhalation.
16. In addition to lethal toxic effects, incapacitation and other harmful effects are of importance for the treaty. However, there is no suitable general method for determination of incapacitating effects.
17. One suggestion was put forward that at least cutaneous application should be utilized to test agents acting on the skin. However, the prevailing view appeared to be that this was not necessary for the specific purposes of placing chemicals in categories though it could be of importance in recognizing compounds in the "other lethal chemicals" category which require special attention.
18. The question of choice of test animals was discussed, and it was generally felt that as few species of animals as possible should be utilized. In particular, it was recommended to utilize rats. In some circumstances additional species might have to be utilized.
19. Several other technical considerations were referred to in the background papers submitted and in the discussions.

E) Application of toxicity determinations in a convention

20. It was generally felt that methods for toxicity determinations should be selected, evaluated and adopted before entry into force of a convention. Thus considerable work must be done before the entry into force of the convention. The specific purposes for which toxicity criteria would be used would have to be taken into account in this work. In addition provision should be made for revision of the methods after entry into force taking into account scientific and technical development.

RECOMMENDATIONS

21. Based on the results of the consultations the Chairman of the CW Experts Group suggests the following recommendations for the consideration of the CW working group of the CD:

(a) That work on developing agreed specific testing methods for determination of acute lethal toxicity be continued. That work on developing agreed specific testing methods for determination of acute lethal toxicity be continued using the relevant points found in Annex III.

(b) That in the future the following also be considered:

- Possible applications of toxicity criteria in a CW Convention.
- Available international resources for toxicity determination and the possibility of international cooperation.
- Possible criteria based on other types of harmful effects.
- The possibility of supplementing inhalation toxicity measurements with intravenous injection.
- Circumstances in which inhalation criteria will be required.

(c) That toxicity values for supertoxic lethal or other lethal and other harmful chemicals given in CD/112, be considered a suitable starting point for future work of the Working Group.

ANNEX I

LIST OF EXPERTSMEMBER STATES

<u>Argentina:</u>	Ingeniero R.C. Fernandez
<u>Bulgaria:</u>	Major Mihailov
<u>Canada:</u>	Dr. M.C. Hamblin
<u>China:</u>	Mr. Li Weimin
<u>Czechoslovakia:</u>	Dr. J. Franěk Mr. J. Moravec
<u>France:</u>	Colonel Gesbert
<u>German Democratic Republic:</u>	Prof. Kh. Lohs
<u>Germany, Federal Republic of:</u>	Prof. Dr. Johannes Pfirschke
<u>Hungary:</u>	Col. Dr. E. Sebok
<u>Indonesia:</u>	Col. Fauzy Qasim
<u>Italy:</u>	Mr. R. di Carlo
<u>Japan:</u>	Mr. T. Oshikawa
<u>Netherlands:</u>	Dr. A.J.J. Ooms
<u>Poland:</u>	Col. J. Cialowicz
<u>Sweden:</u>	Dr. S-Å. Persson
<u>U.K.:</u>	Dr. A. Bebbington
<u>USSR:</u>	Mr. N.I. Tchougounov Mr. A.P. Kutepov
<u>USA:</u>	Dr. Robert Mikulak Col. Roger Scott Col. Manuel Sanches Dr. F. Prescott Ward Dr. Nicholas Kyriakopoulos
<u>Yugoslavia:</u>	Prof. Dr. Vladimir Vojvodić

NON-MEMBER STATES

<u>Austria:</u>	Col. R. Bondi
<u>Denmark:</u>	Dr. J. Leerhoy
<u>Finland:</u>	Dr. J. Enqvist
<u>Norway:</u>	Dr. F. Fonnum
<u>Spain:</u>	Mr. I. Ferrer

ANNEX II

BACKGROUND PAPERS PRESENTED

- United Kingdom: The setting of toxicity limits and the estimation of lethality, dated 6 July 1981.
- United States: Questions which should be dealt with in CD experts' discussions of toxicity standards, dated 6 July 1981.
- Canada: Toxicity determinations, dated 6 July 1981.
- Poland: Principal conditions and parameters that could be standardized with respect to the determination of the toxicity of chemicals for the purposes of a convention on the prohibition of chemical weapons, dated 6 July 1981.
- Norway: Lethality data for chemical toxic agent, dated 6 July 1981.
- Norway: Explanatory note on the lethality data for chemical toxic agents, dated 7 July 1981.
- Japan: Standardization of toxicity testing method, dated 7 July 1981.
- German Democratic Republic: Some thoughts on scope and limitations of test animals for predictions of human toxicity (Problems of extrapolation to man), dated 7 July 1981.
- Norway: Points relevant to standardize in screening test (extracted from Canadian and Polish papers), dated 9 July 1981.
- Federal Republic of Germany: Working paper on the definition and classification of chemical warfare agents (CCD/458), dated 22 July 1975.
- Professor M. Mercier: The International Programme on Chemical Safety, document no. EHE/80.14 Rev.1 (ILO, UNEP, WHO).
- Argentina: Background paper by the Representative of Argentina at the consultations with experts on chemical weapons, dated 8 July 1981.

ANNEX III

LIST OF REFERENCE MATERIAL DISTRIBUTED

- (a) Environmental Health Criteria no. 6. Principles and methods for evaluating the toxicity of chemicals, WHO, 1978.
- (b) OECD Guideline for testing of chemicals: "Acute inhalation toxicity", May, 1981.
- (c) Draft decision of the council. Concerning mutual acceptance of data in the assessment of chemicals. Annex 2. OECD principles of good laboratory practice.
- (d) World Health Organisation: Health Aspects of chemical and biological weapons, 1970.

(2) Assessment of public health and social problems associated with the use of psychotropic drugs. Report of the WHO Expert Committee on Implementation of the Convention on Psychotropic Substances, 1971. Series 856, 1981.

Species:	[illegible]
Exposure Route:	[illegible]
Exposure Time:	[illegible]
Equilibration Time of Chamber (min):	[illegible]
Volume of animal (litre):	[illegible]
Type of chamber:	[illegible]
Ventilation:	[Hot Plate, Bubbling Chamber or Diffusion Chamber]
Observation Period:	[illegible]
No. of animals:	[20; 10 male & 10 female]
Wt. of animals:	[300 gr ± 20%]

SAMPLING CONTROL NECESSARY

ANNEX IV

RELEVANT PUBLICATIONS

- (a) The single convention on narcotic drugs, 1961, as amended by the 1972 protocol, (available from the United Nations or the World Health Organisation).
- (b) The convention on psychotropic substances, 1971, (available from the United Nations or the World Health Organisation).
- (c) National response to the convention on psychotropic substances, 1971, Jordan. Authors: Dr. I. Khan, Mr. K. Katawneh, Dr. M.A.T. Kanaan and Mr. H. Musmar.
- (d) The WHO expert committee on drug dependence. 21st report, WHO Technical Report Series 618, 1978.
- (e) Interdisciplinary Science Reviews, vol. 3, no. 3, 1978: The role of WHO in international drug control. Author: Dr. I. Khan.
- (f) Assessment of public health and social problems associated with the use of psychotropic drugs. Report of the WHO expert committee on implementation of the convention on psychotropic substances, 1971. WHO Technical Report Series 656, 1981.
- (g) WHO press release WHO/12, 13 March 1981: Four weight-reducing drugs placed under international control.

ANNEX V

Suggestions for items to be studied and decided upon for agreed toxicity tests:

<u>Items</u>	<u>Suggestions</u>
<u>SUBCUTANEOUS TESTS</u>	
Administration:	[Subcutaneous]
Species:	[Albino Rat]
Solution Conc:	[0.5 mg/ml; 10 mg/ml]
Solvent:	[Distilled water, 0.85% saline, propylene glycol, ethanol]
Injection Volume	[1 ml/kg]
Observation Period:	[48 hours]
No. of animals:	[20; 10 male & 10 female]
Wt. of animals:	[200 gm \pm 20%]
Injection site:	[Ventral side]

INHALATION TESTS

[WHOLE BODY EXPOSED OR HEAD ONLY EXPOSURE]

Administration:	[Inhalation]
Species:	[Albino Rat]
Exposure Conc:	[200 mg/m ³]
Exposure Time:	[10 min]
Equilibration Time of Chamber (t ₉₀):	[2 min]
Volume of animal/ Volume of Chamber:	[10% >]
Vehicle:	[Hot Plate, Bubbling Chamber or Diffusion Chamber]
Observation Period:	[48 hours]
No. of animals:	[20; 10 male & 10 female]
Wt. of animals:	[200 gm \pm 20%]

SAMPLING CONTROL NECESSARY

Constitution for the State of New York
Article 17 - Education

(1) The State shall have the duty to provide for the education of all children between the ages of five and sixteen years, and to provide for the education of all children between the ages of sixteen and twenty-one years, in accordance with the provisions of this article.

(2) The State shall have the duty to provide for the education of all children between the ages of five and sixteen years, in accordance with the provisions of this article.

(3) The State shall have the duty to provide for the education of all children between the ages of sixteen and twenty-one years, in accordance with the provisions of this article.

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COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

CD/CW/WP.22/Corr.1
15 July 1981

Original: ENGLISH

Report of the Chairman to the Working Group on Chemical Weapons on the consultations held on issues relating to toxicity determinations

INTRODUCTION

Report of the Chairman of the Working Group on Chemical Weapons on the consultations held on issues relating to toxicity determinations

CORRIGENDUM

Page 1, add after end of para 1 the following:

"On behalf of the Chairman, Dr. S.J. Lundin, Sweden, acted as Chairman for the consultations."

Page 2, para 2, line 1, replace the words "twenty-nine" by "thirty-one".

Page 5, add to the list of participating experts (Annex I) as the first name under Sweden "Dr. S.J. Lundin".

10/24/81
13 July 1981
ORIGINAL: ENGLISH

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Report of the Chairman of the Working Group on Chemical
Weapons on the consultations held on issues related to
toxicity testing

CONCLUSION

Page 1, and after end of para 2 the following
"On behalf of the Chairman, Dr. G.D. ...
for the ...
Page 2, para 1, line 1, replace the words "twenty-nine" by "thirty-one".
Page 3, para 1, line 1, replace the words "thirty-one" by "thirty-one".
Page 4, para 1, line 1, replace the words "thirty-one" by "thirty-one".

23 July 1981

Original: ENGLISH

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

Report of the Chairman to the Working Group on Chemical Weapons on the consultations held on issues relating to toxicity determinations

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2. International recommendations
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4. The technical performance of toxicity determinations
5. Application of toxicity determinations in a convention

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6. A presentation was made to the group by the delegation of the United States of America concerning a system for remote continual verification for nuclear safeguards purposes. This system is being developed and tested in an international demonstration project involving seven countries and the International Atomic Energy Agency. The speaker noted that this technology might have some applications in verification of a chemical weapons convention, although this would require further study.

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(a) Conceptual aspects

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9. To ensure that sufficiently reliable toxicity data are available it would be necessary to agree upon the testing procedures to be employed.

(b) International recommendations

10. The recognized need for standardized methods for toxicity determinations led to an inventory of existing standard procedures for toxicity determination. The principles and methods contained in the WHO publication Environmental Health Criteria 6, Principles and Methods for Evaluating the Toxicity of Chemicals, Part 1, were noted. Some delegations pointed to the OECD guidelines for good laboratory practice and a number of protocols for different types of toxicity tests, which the organization had developed for internal use. In addition, a number of countries have adopted standard methods for internal purposes. Some principles and methods for toxicity determinations are set forth in a number of documents (see Annex III).

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(c) Extrapolation to man

12. The extrapolation of toxicity data from animals to man was discussed. It was felt that for the purpose of the convention it would not be necessary to make such extrapolations since the toxicity data were mainly intended for classification of chemicals in different groups, and there appears to be a general positive correlation between lethal toxicity in test animals and that in human beings.

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(d) The technical performance of toxicity determinations

13. The precision and complexity of different possible methods will have to be decided upon taking into account the purpose of the methods.

14. There was general agreement that the methods should be relatively simple. For the purposes of placing chemicals in categories a screening test would normally be sufficient. However, for cases in which the appropriate category was difficult to determine, more elaborate procedures would be necessary. Specific suggestions were made for simple, standardized methods for the toxicity determinations themselves.

15. It was generally accepted that such standardized methods should rely on administration of the test substances by subcutaneous injection, and when necessary by inhalation.

16. In addition to lethal toxic effects, incapacitation and other harmful effects are of importance for the treaty. However, there is no suitable general method for determination of incapacitating effects.

17. One suggestion was put forward that at least cutaneous application should be utilized to test agents acting on the skin. However, the prevailing view appeared to be that this was not necessary for the specific purposes of placing chemicals in categories though it could be of importance in recognizing compounds in the "other lethal chemicals" category which require special attention.

18. The question of choice of test animals was discussed, and it was generally felt that as few species of animals as possible should be utilized. In particular, it was recommended to utilize rats. In some circumstances additional species might have to be utilized.

19. Several other technical considerations were referred to in the background papers submitted and in the discussions.

(e) Application of toxicity determinations in a convention

20. It was generally felt that methods for toxicity determinations should be selected, evaluated and adopted in the process of elaboration of such a convention. Thus considerable work must be done before the entry into force of the convention. The specific purposes for which toxicity criteria would be used would have to be taken into account in this work. In addition provision should be made for revision of the methods after entry into force taking into account scientific and technical development.

RECOMMENDATIONS

21. Based on the results of the consultations the Chairman of the CW Experts Group suggests the following recommendations for the consideration of the CW working group of the CD:

(a) That work on developing agreed specific testing methods for determination of acute lethal toxicity be continued using the relevant points found in Annex V.

(b) That in the future the following also be considered:

- Possible applications of toxicity criteria in a CW convention
- Available international resources for toxicity determination and the possibility of international co-operation
- Possible criteria based on other types of harmful effects
- The possibility of supplementing inhalation toxicity measurements with intravenous injection
- Circumstances in which inhalation criteria will be required.

(c) That toxicity values for supertoxic lethal or other lethal and other harmful chemicals given in CD/112, be considered a suitable starting-point for future work of the Working Group.

ANNEX I

LIST OF EXPERTS

MEMBER STATES

Argentina: Ingeniero R.C. Fernandez
Bulgaria: Major Mihailov
Canada: Dr. H.C. Hamblin
China: Mr. Li Weimin
Czechoslovakia: Dr. J. Franek
Mr. J. Moravec
France: Colonel Gesbert
German Democratic Republic: Prof. Kh. Lohs
Germany, Federal Republic of: Prof. Dr. Johannes Pfirsichke
Hungary: Col. Dr. E. Sebok
Indonesia: Col. Fauzy Qasim
Italy: Mr. R. di Carlo
Japan: Mr. T. Oshikawa
Netherlands: Dr. A.J.J. Ooms
Poland: Col. J. Cialowicz
Sweden: Dr. S.J. Lundin
Dr. S-A. Persson
United Kingdom: Dr. A. Bebbington
USSR: Mr. N.I. Tchougounov
Mr. A.P. Kutepov
United States of America: Dr. Robert Mikulak
Col. Roger Scott
Col. Manuel Sanches
Dr. F. Prescott Ward
Dr. Nicholas Kyriakopoulos
Yugoslavia: Prof. Dr. Vladimir Vojvodić

NON-MEMBER STATES

Austria: Col. R. Bondi
Denmark: Dr. J. Leerhoy
Finland: Dr. J. Encvist
Norway: Dr. F. Fønnum
Spain: Mr. I. Ferrer

ANNEX II

BACKGROUND PAPERS PRESENTED

- United Kingdom: The setting of toxicity limits and the estimation of lethality, dated 6 July 1981.
- United States: Questions which should be dealt with in CD experts' discussions of toxicity standards, dated 6 July 1981.
- Canada: Toxicity determinations, dated 6 July 1981.
- Poland: Principal conditions and parameters that could be standardized with respect to the determination of the toxicity of chemicals for the purposes of a convention on the prohibition of chemical weapons, dated 6 July 1981.
- Norway: Lethality data for chemical toxic agent, dated 6 July 1981.
- Norway: Explanatory note on the lethality data for chemical toxic agents, dated 7 July 1981.
- Japan: Standardization of toxicity testing method, dated 7 July 1981.
- German Democratic Republic: Some thoughts on scope and limitations of test animals for predictions of human toxicity (Problems of extrapolation to man), dated 7 July 1981.
- Norway: Points relevant to standardize in screening test (extracted from Canadian and Polish papers), dated 9 July 1981.
- Federal Republic of Germany: Working paper on the definition and classification of chemical warfare agents (CCD/458), dated 22 July 1975.
- Professor M. Mercier: The International Programme on Chemical Safety, document no. EHE/80.14 Rev.1 (ILO, UNEP, WHO).
- Argentina: Background paper by the Representative of Argentina at the consultations with experts on chemical weapons, dated 8 July 1981.

ANNEX III

LIST OF REFERENCE MATERIAL DISTRIBUTED

- (a) Environmental Health Criteria no. 6. Principles and methods for evaluating the toxicity of chemicals, WHO, 1970.
- (b) OECD Guideline for testing of chemicals: "Acute inhalation toxicity", May, 1981.
- (c) Draft decision of the council. Concerning mutual acceptance of data in the assessment of chemicals. Annex 2. OECD principles of good laboratory practice.
- (d) World Health Organization: Health aspects of chemical and biological weapons, 1970.

Species:	[Albino Rat]
Exposure Conc:	[200 mg/m ³]
Exposure Time:	[10 min]
Equilibration Time of Chamber (190):	[2 min]
Volume of animal/Volume of Chamber:	[1/100]
Vehicle:	[10% P.D. in, Bubbling Chamber or Diffusion Chamber]
Observation Period:	[40 hours]
No. of animals:	[20: 10 male and 10 female]
Wt. of animals:	[200 g ± 20%]

ANNEX IV

RELEVANT PUBLICATIONS

- (a) The single convention on narcotic drugs, 1961, as amended by the 1972 protocol, (available from the United Nations or the World Health Organization).
- (b) The convention on psychotropic substances, 1971, (available from the United Nations or the World Health Organization).
- (c) National response to the convention on psychotropic substances, 1971, Jordan. Authors: Dr. I. Khan, Mr. K. Katawneh, Dr. H.A.T. Kanaan and Mr. H. Musmar.
- (d) The WHO expert committee on drug dependence. 21st report, WHO Technical Report Series 618, 1978.
- (e) Interdisciplinary Science Reviews, vol. 3, no. 3, 1978: The role of WHO in international drug control. Author: Dr. I. Khan.
- (f) Assessment of public health and social problems associated with the use of psychotropic drugs. Report of the WHO expert committee on implementation of the convention on psychotropic substances, 1971. WHO Technical Report Series 656, 1981.
- (g) WHO press release WHO/12, 13 March 1981: Four weight-reducing drugs placed under international control.

ANNEX V

Suggestions for items to be studied and
decided upon for agreed toxicity tests:

<u>Items</u>	<u>Suggestions</u>
SUBCUTANEOUS TESTS	
Administration:	[Subcutaneous]
Species:	[Albino Rat]
Solution Conc:	[0.5 mg/ml; 10 mg/ml]
Solvent:	[Distilled water, 0.85% saline, propylene glycol, ethanol]
Injection Volume:	[1 ml/kg]
Observation Period:	[48 hours]
No. of animals:	[20; 10 male and 10 female]
Wt. of animals:	[200 gm \pm 20%]
Injection site:	[Dorsal side]

INHALATION TESTS

[WHOLE BODY EXPOSED OR HEAD ONLY EXPLSURE]

Administration:	[Inhalation]
Species:	[Albino Rat]
Exposure Conc:	[200 mg/m ³]
Exposure Time:	[10 min]
Equilibration Time of Chamber (t90):	[2 min]
Volume of animal/ Volume of Chamber:	[10% >]
Vehicle:	[Hot Plate, Bubbling Chamber or Diffusion Chamber]
Observation Period:	[48 hours]
No. of animals:	[20; 10 male and 10 female]
Wt. of animals:	[200 gm \pm 20%]

SAMPLING CONTROL NECESSARY

VI ANNEX V

Questionnaire to be filled out

- (a) Decided upon for animal safety tests
- Species: []
Administrative: []
Exposure type: []
Exposure time: []
Exposure level: []
Volume of animal: []
Volume of material: []
Vehicle: []
Observation period: []
No. of animals: []
Vt. of animals: []
- (b) Decided upon for animal safety tests
- Species: []
Administrative: []
Exposure type: []
Exposure time: []
Exposure level: []
Volume of animal: []
Volume of material: []
Vehicle: []
Observation period: []
No. of animals: []
Vt. of animals: []
- (c) Decided upon for animal safety tests
- Species: []
Administrative: []
Exposure type: []
Exposure time: []
Exposure level: []
Volume of animal: []
Volume of material: []
Vehicle: []
Observation period: []
No. of animals: []
Vt. of animals: []
- (d) Decided upon for animal safety tests
- Species: []
Administrative: []
Exposure type: []
Exposure time: []
Exposure level: []
Volume of animal: []
Volume of material: []
Vehicle: []
Observation period: []
No. of animals: []
Vt. of animals: []

SMILING COMPANY

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

AUSTRALIA

CHEMICAL WEAPONS VERIFICATION: CONSULTATIVE COMMITTEE OF EXPERTS

It is agreed that the projected Chemical Weapons Convention should have a Consultative Committee to assist in the implementation of its compliance provisions. It has also been suggested that the Committee could have additional functions to contribute to the effective working of the Convention. Some proposals to this effect have been outlined by the Chairman of the Ad Hoc Working Group in document CD/CW/WP.21, Annex IV. The purpose of this paper is to build on existing proposals, to suggest functions which the Consultative Committee should perform and ways of its doing so. The suggestions herein do not aspire to be fully comprehensive and there is scope for elaborating and adding to them.

Introduction

The Consultative Committee should have two principal functions: providing for exchanges of information and implementing the verification provisions of the Convention. The Consultative Committee will provide a means for parties to exercise their rights under the Convention and to facilitate the discharge of their obligations. The essential purpose is to provide a basis for mutual confidence between the States parties as to the effective operation of the Convention and thereby to provide assurances to the international community.

Exchanges of information

The Convention will require for its effective working a constant exchange of information between the parties. The Consultative Committee should be the vehicle for receiving and distributing this information.

The Convention should specify information that may be exchanged. This information may include:

- . Declarations of chemical weapons stocks, production facilities and plans for their destruction;
- . Reports on the progress of destruction of stocks and facilities;
- . Information on the production and use for permitted purposes of chemicals which are subject to the Convention;
- . Information provided by national verification authorities;
- . Reports of verification activities.

The Consultative Committee will also have an important function in relation to the review provisions of the Convention. This will involve exchanges of information concerning for example:

- . The synthesis of new chemicals of potential relevance for chemical weapons, with a view to revision of the lists of chemicals on which reporting is required under the Convention;
- . Technical developments, for instance, as to procedures for toxicity determination.

The Consultative Committee might also serve as a preparatory committee for review conferences of the Convention.

Apart from simply receiving and distributing information, the Consultative Committee would provide a forum to discuss the information provided by member States and for members of the Committee to request and receive additional information or explanations.

Implementation of verification

The Convention is expected to provide both for verification on a routine basis and for challenge verification. The Convention should establish guidelines for these verification activities to be implemented by the Consultative Committee. These guidelines would be subject to review by agreement amongst the States parties.

The routine verification activities would be to confirm destruction of declared stocks and facilities and to provide for visits by inspection teams to facilities or other sites in States parties, to confirm the non-production and non-retention of prohibited chemicals. It would also be open to any member State to invite inspection at any time of any facility or activity on its territory, so as to demonstrate compliance with the Convention. The Consultative Committee would have the task of deciding, in conformity with guidelines laid down in the Convention, on the programme and other arrangements for these verification activities and on the composition and terms of reference of inspection teams. The agreement would be required of the State party on whose territory verification activities are to take place. Reports on the results of verification activities should be circulated to the parties and could be discussed by the Consultative Committee.

Challenge verification procedures and the role therein of the Consultative Committee will be specified in the Convention. These procedures should provide for:

- . The automatic and prompt convening of the Committee at the initiative of any State party;
- . Explanation by the challenging State of the basis of its challenge and opportunity for response by the challenged State;

- . Decision by the Committee on the appropriate course of action, which may include a fact-finding inspection;
- . Submission of a report to the Committee, with the results of any inspection, for circulating to all States parties.

The Consultative Committee should at all stages consider the possibility of a bilateral solution to any dispute and be prepared to assist therein. Accordingly challenging and challenged States should inform the Committee of any endeavours to reach a bilateral solution.

States parties should nominate individuals whom the Consultative Committee may call upon as inspectors. They may nominate national laboratories to which the Committee may direct samples to be sent for analysis.

Structure

The Consultative Committee should consist of one representative nominated by each State party, who may be assisted by advisers. The Committee should have a permanent headquarters and a small secretariat with a library and archival facilities. It should not have its own laboratory or related facilities.

Operation

The Consultative Committee should hold meetings at regular (annual) intervals and ad hoc meetings to arrange for routine and challenge verification activities, including inspections and fact-finding visits. Reports of such activities should be discussed at meetings of the Committee.

Committee meetings and other procedures should proceed automatically. There should be no veto on convening meetings. The failure of any representative to attend should not prevent the Committee from meeting, conducting its proceedings, taking decisions or issuing reports.

The Committee's decisions and reports should be purely technical and factual and not involve legal assessments as to whether or not there has been compliance with the Convention. It would be for the States parties individually to make this judgement and to decide on any consequent action.

Conclusion

The operations of the Consultative Committee should aim to develop habits of verification and confirmation of compliance so as to build mutual confidence between the parties.

AUSTRALIA

CHEMICAL WEAPONS CONVENTION:
ASSISTANCE TO PARTIES

Introduction

On 8 April in the Ad Hoc Working Group the Australian delegation suggested that a future Chemical Weapons Convention might include a provision for assistance to a state threatened with or subjected to a chemical attack. Effective protection is in itself an important deterrent against attack but not all countries are in a position to maintain adequate protection capabilities. The possibility that under a Convention a state could gain access to such protection would be a real incentive for it to become a party. It is envisaged that the task of allocating such assistance would be one of the responsibilities of the Consultative Committee.

When a state party might request assistance

There is a broad expert agreement that chemical weapons could be militarily most effective against an unprotected opponent, but relatively ineffective otherwise. The expectation that the prospective target will be adequately protected therefore makes it unlikely that CW will appear militarily attractive. In this way availability of protection acts as a deterrent against CW attack and against the acquisition or retention of CW.

The circumstances in which a chemical attack might be militarily attractive could range from a battle in a major war fought on a wide front, to on-going small

scale use to suppress guerilla activity in an inaccessible area. The prospect of international assistance would not be effective (too late and too small scale) against a surprise attack intended to break a major front so as to achieve an immediate, decisive advantage. Countries which envisage facing such a situation will wish, under a CW Convention, to retain or even expand their national capability to protect their forces. This will help ensure that CW will not appear to be an attractive option. In the nature of things these tend to be countries with considerable industrial resources at their command. Countries with little or no national protective capabilities may be more concerned at the possibility of smaller scale but also more protracted CW attacks. A hostile power could not expect to achieve a decisive military advantage with CW in such circumstances if it knew that the intended victim could rapidly acquire an effective protective capability. In this way, the prospect of international assistance with protection would make it less likely that any country would see a major military advantage in the possible use of CW. A provision for such assistance would thus serve to increase well founded international confidence in the efficacy of the projected Convention.

Nature of assistance

The main assistance would be in the form of protective clothing and equipment, such as respirators; it could also comprise medical assistance for the treatment of any chemical casualties; finally it could in addition include activities such as decontamination. In the first of these categories at least there should be a permanent and accessible stockpile of protective clothing and equip-

ment on hand for use when requested and approved. The availability of other forms of assistance, whether from individual countries or from international organisations such as the Red Cross, the World Health Organisation or the UN Disaster Relief Organisation, should be investigated, provided for and information on this kept up to date.

Procedure

Responsibility for the administration of the relevant assistance should rest with the Consultative Committee, and should broadly follow the procedures applying in the case of requests for assistance with verification. Promptly on receipt of a request the Committee should meet, evaluate the situation and decide upon the appropriate response. Where necessary individual countries or international organisations should be approached for help. Unless there are compelling reasons to the contrary, a positive and early response should normally be made to each request.

scale and to support activities in an accessible area. The prospect of international assistance would not be effective (see also the small scale project in the area of the ...)

at of their own ... the ...

availability of other forms of assistance, whether from individual countries or from international organizations such as the Red Cross, the World Health Organization or the UN Disaster Relief Organization, should be investigated.

the ... provided for and information on this kept up to date.

the ... of ...

Organization to be created

The main objective would be in the form of a ...



COMMITTEE ON DISARMAMENT
Working Paper on Chemical Weapons

AUSTRALIA

CHEMICAL WEAPONS VERIFICATION: THE METHYL-PHOSPHOROUS
"FINGER PRINT"

A particular problem in the verification of a Chemical Weapons convention appears to be that of distinguishing between agents covered by the prohibition and those exempted as having legitimate applications, such as pest or weed control. The problem is apparently greatest in distinguishing between organophosphorous nerve agents (including the best known nerve agents -- Soman, Sarin, Tabun and VX) and the large family of insecticides which are also of the organophosphorous type. This paper identifies one method of so distinguishing which may greatly facilitate the verification exercise. At the same time it identifies potential future difficulties in this connection, as a result of technological developments or arising from the destruction of chemical weapons stockpiles.

The main practical difference between nerve agents and organophosphorous insecticides is that the former have and the latter do not have high mammalian toxicity. In terms of their chemical structure one notable difference is that existing nerve agents have and organophosphorous insecticides do not have the chemical bond $\text{CH}_3\text{-P}$. This methyl-phosphorous bond appears to be directly related to high mammalian toxicity, and compounds containing this group have been avoided by manufacturers of insecticides.

Two sets of questions arise from this analysis. The first is

(a) can one readily identify the $\text{CH}_3\text{-P}$ methyl-phosphorous bond in a given sample of suspect material?

(b) can the possibility be excluded of this chemical configuration occurring in nature?

The answer to both questions is yes. The methyl-phosphorous bond is very strong, and resists most methods of degradation. It can be detected analytically with great sensitivity, and because of this it should be possible to detect nerve agents and their breakdown products at high dilution. There should be no ambiguity that the organophosphorous compound detected is derived from a nerve agent, even in the presence of an insecticide which may have been used for an agricultural purpose or to control disease-bearing mosquitoes. Furthermore, an extensive search of the

literature shows that the CH₃-P methyl-phosphorous bond appears to be unknown in nature. Thus the detection of this chemical configuration in a sample could not be due to a naturally occurring organophosphorous compound. It would appear therefore that a false positive identification of a nerve agent or its breakdown product could not occur.

The second set of questions is

(a) are there putative nerve agents which do not have the CH₃-P methyl-phosphorous bond?

(b) are there putative compounds having legitimate applications which might have this chemical configuration?

Unfortunately the answer to both questions is again yes. These issues need to be looked at separately.

First, there are known organophosphorous compounds which have a high mammalian toxicity but which nevertheless do not contain the methyl-phosphorous bond. Some of these are sufficiently toxic to be considered putative nerve agents. Information is not at present available as to the possibility of identifying them or their hydrolysis products as distinct from insecticides. It must be considered therefore that at present, false negative results are possible. This is an area that will require further study.

Secondly, it can by no means be excluded that chemical compounds having legitimate applications will be developed which have breakdown products similar to nerve agents. The rate of development of new chemicals is so great that this eventuality must be considered likely.

Two possibilities of the CH₃-P chemical configuration appearing in the future in chemical agents exempted under a convention arise in the context of destruction of stocks. In 1980 a representative of the United States described for the Committee on Disarmament a chemical plant which had been built to demilitarize obsolete chemical warheads. The end product of this process was a number of salts of very low toxicity which were stored at the chemical plant. It should be noted that the escape from such a facility and dissemination into the biosphere of the methyl phosphonic acid derived from weapon destruction would of course complicate the detection of chemical warfare agents on the proposed basis.

The second possibility arises from the fact that not only is the destruction of stockpiles expensive but it leads to no useful end product. Because of this it has been suggested that chemical warfare agents could be used as chemical feedstock in the production of compounds with relatively low mammalian toxicity.

These could be used as insecticides. This appears to be feasible from the point of view of the chemistry involved, although it may not in fact be economically viable. However, insecticides produced in this way would contain the $\text{CH}_3\text{-P}$ methyl-phosphorous bond. If such insecticides were widely used then methyl phosphonic acid would result from their natural degradation and this again would complicate the detection of chemical warfare agents on the proposed basis.

In summary, the $\text{CH}_3\text{-P}$ methyl-phosphorous bond can be viewed as a "finger print" of all the well known nerve agents. Our ability to detect very low concentrations of this chemical configuration offers an important technical aid to verification. False positive results will not occur unless chemicals are made and disseminated which have breakdown products similar to nerve agents. To take account of this possibility it will be necessary for constant evaluation and updating of verification measures. To preserve the present relatively favourable situation it will furthermore be necessary to ensure during the demilitarization of chemical warfare agents that methyl phosphonic acid and its derivatives are not disseminated.

of certain other groups and compounds - when P-10 is subjected to the same conditions as those described above.

It is noted that the results obtained with P-10 are in general similar to those obtained with P-11, but that the rate of reaction is somewhat slower.

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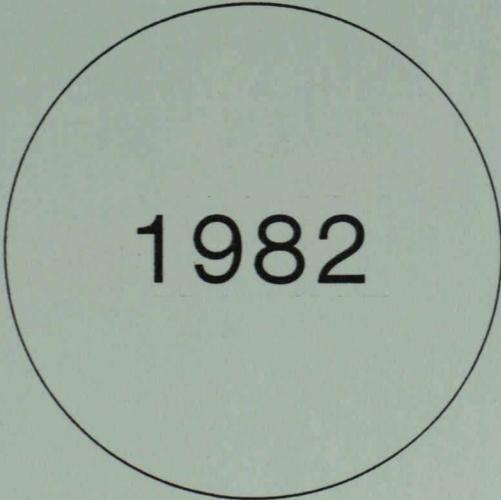
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1982



United
Kingdom

CD/CW/26

Verification and
Monitoring Compliance
in a Chemical Weapons
Convention

Also issued
as CD/244
18 Feb. 1982

NOT REPRODUCED
(see WP volume)

Also issued
as CD 144
19 Feb. 1981

Investigation and
Development
of a Central
Investigation

United
Kingdom

THE
SECRET

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

Suggestions by the Chairman on the draft programme
of work of the Ad hoc Working Group on Chemical
Weapons for the first part of its 1982 session

The Chairman suggests to conduct the work of the Group on the basis of elements and summary of related comments contained in the report CD/220.

Having in mind that:

- the Group will be holding one meeting a week (without counting possible additional and/or informal meetings),
- one meeting will have to be devoted to the "Report of the Chairman of the Group of Experts on the consultations held from 15 to 19 March on the issues relating to the toxicity determinations,
- another meeting will have to be devoted to the approval of the Report in connection with the Second Special Session of the United Nations General Assembly on Disarmament,

the Group has practically at its disposal just seven regular meetings only. It seems to be advisable to organize the work of the Group approximately in the same manner as in 1980 and 1981. In this connection, the Chairman suggests to divide the questions to be discussed into three main groups:

- I - scope of the prohibition,
- II - verification,
- III - other problems.

The Chairman proposes to devote three meetings to each of the first two groups of problems and one meeting to the problems of the third group.

The meetings will take place every Wednesday. The Chairman proposes the following draft programme, preserving a considerable flexibility of its realization, similarly as it was done last year.

24 February: Organizational matters.

3 March: Elements I, II, and Annex I.

- General provision
- General definition of chemical weapons
- Definitions and Criteria

10 March: Elements III, IV and Annex II.

- Prohibition of transfer
- Declarations
- Declarations of possession of stocks of chemical weapons and means of production of chemical weapons, plans for their destruction or diversion for permitted purposes and time frames as well as forms for making such declarations.

17 March: Elements V, VI and Annex III.

- Destruction, diversion, dismantling and conversion.
- Super-toxic lethal chemicals for non-hostile military purposes.
- Destruction, dismantling, or diversion for permitted purposes of declared stocks of chemical weapons and their means of production.

24 March: Discussion on the report of the Chairman on consultations held (15-19 March) on issues relating to toxicity determination.

31 March: Element IX.

- General provision on verification.

7 April: Elements X, XI and Annex IV.

- National legislation verification measures.
- National technical means of verification.
- Recommendations and guidelines concerning the functions and organization of the national verification system.

14 April: Elements XII, XIII and Annex V.

- Consultation and co-operation.
- Consultative Committee.
- Consultative Committee (Annex)

Elements VII, VIII, XIV, XV, XVI, XVII and XVIII to be discussed during additional meetings as required.

- Relationship with other treaties.
- International co-operation.
- Amendments.
- Review conferences.
- Duration and withdrawal.
- Signature, notification, accession.
- Distribution of the Convention.

21 April: Consideration and adoption of the report in connection with the Second Special Session of the General Assembly of the United Nations

Efforts will be made by the Chairman to obtain at least three additional meetings of the working group.

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Suggestions by the Chairman on the draft programme of work
of the Ad Hoc Working Group on Chemical Weapons
for the first part of its 1982 session

The Chairman proposes the following draft programme:

- 1st meeting: 24 February: Organizational matters
- 2nd meeting: 3 March: Adoption of programme of work and consideration of
Elements I, II, and Annex I
- General provision
 - General definition of chemical weapons
 - Definitions and Criteria
- 3rd meeting: 10 March: Elements III, IV and Annex II
- Prohibition of transfer
 - Declarations
 - Declarations of possession of stocks of chemical weapons and means of production of chemical weapons, plans for their destruction or diversion for permitted purposes and time frames as well as forms for making such declarations
- 4th meeting: 15 March (Morning): Elements V, VI and Annex III
- Destruction, diversion, dismantling and conversion
 - Super-toxic lethal chemicals for non-hostile military purposes
 - Destruction, dismantling, or diversion for permitted purposes declared stocks of chemical weapons and their means of production
- 5th meeting: 17 March: Element IX
- General provisions on verification
- 6th meeting: 22 March (Morning): Discussion on the report of the Chairman on consultations held (15-19 March) on issues relating to toxicity determination (and time permitting consideration of elements scheduled for 24 March)

- 7th meeting: 24 March: Elements X, XI and Annex IV (and time permitting, consideration of elements scheduled for 29 March)
- National legislation verification measures
 - National technical means of verification
 - Recommendations and guidelines concerning the functions and organization of the national verification system
- 8th meeting: 29 March (Morning): Elements XII, XIII and Annex V (and time permitting, consideration of elements scheduled for 31 March)
- Consultation and co-operation
 - Consultative Committee
 - Consultative Committee (Annex)
- 9th meeting: 31 March: Elements VII, VIII, XIV, XV, XVI, XVII and XVIII
- Relationship with other treaties
 - International co-operation
 - Amendments
 - Review conferences
 - Duration and withdrawal
 - Signature, ratification, accession
 - Distribution of the Convention
- 10th meeting: 7 April: The remaining issues (preamble, others)
- 11th meeting: 14 April and
- 12th meeting: 19 April (Morning): Consideration and adoption of the report in connection with the Second Special Session of the General Assembly of the United Nations

Socialist
Group

CD/CW/WP.28

Binary Weapons and the
Problem of Effective
Prohibition of Chemical
Weapons

Also issued
as CD/258
and Rev. 1
9 March 1982

NOT REPRODUCED
(see WP volume)

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

BULGARIA

Questions related to the ban of binary chemical weapons

Should new kinds of chemical weapons - binaries - based on the latest technological achievements and on qualitatively new principles be deployed, the current negotiations on the prohibition and destruction of chemical weapons would be greatly complicated. In view of this, the ban on binary chemical weapons within the framework of the chemical weapons convention that is being elaborated, deserves particular attention. The delegation of the People's Republic of Bulgaria has on several occasions in the past raised this problem, and would be grateful if other delegations could present their views and further explain their positions in relation to the following questions:^{1/}

1. How one could evaluate and estimate stockpiles of chemical weapons of a binary type:
 - by ascertaining the quantity of the final chemical agent for instance, super-toxic or lethal, released after the reaction of the precursors?
 - by ascertaining the quantity of non-filled munitions of binary-type design?
 - by ascertaining the stockpiles of precursors that are stored separately?
 - or by way of some other characteristics?
2. How to identify countries (now and in the future) which according to the level of development of their chemical industry or in accordance with some other criteria, should in compliance with a Chemical Weapons Convention, be making declarations on stockpiles and production of chemicals suitable for use in binary chemical weapons?
3. Shall we envisage in the convention measures limiting production of chemicals intended for the production of chemical weapons of the binary type?

^{1/} Questions of defining the toxicity of binary chemical weapons are not dealt with in this paper, though they carry considerable importance.

4. What effective measures could we envisage in the convention with a view to preventing the proliferation of chemical weapons of the binary type:
 - in the period before the convention enters into force?
 - from the moment of entry into force till the complete destruction of chemical weapons stocks?
5. How are we to solve the problem of prohibition or limitation of transfer of chemicals both in kind and quantity, with a view to preventing their use in the production of chemical weapons of the binary type?
6. What is the way to distinguish for the purposes of the convention between the chemicals for civilian use and those intended for use in binary chemical weapons?
7. How the control of the non-production of precursors could be carried out under the convention? Especially in cases when the components of a binary chemical weapon are not known except to one of the Parties to the convention.
What is then the manner in which the possession or the non-possession of binary chemical weapons could be verified?

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Report of the Chairman to the Working Group on
Chemical Weapons on the consultations held on
issues relating to toxicity determinations

INTRODUCTION

1. The consultations were held in the week from 15 to 19 March 1982 and were based on the time-table of work proposed by the Chairman, as contained in document CD/CW/CRP.23, to structure the discussions, under the five following headings:

- I. Specific testing methods for determinations of acute lethal toxicity including, inter alia, possible approaches to the elaboration of standardized methods of toxicity determination of mixtures of chemicals
- II. Circumstances in which inhalation methods are required, supplemented, if necessary, by intravenous toxicity determination
- III. Possible criteria based on other types of harmful effects
- IV. Inventory of international standardized methods for toxicity determinations
- V. Other items

On behalf of the Chairman of the Working Group, Professor Dr. S. Rump acted as Chairman for the consultations.

2. Thirty-two experts from 25 countries participated in the consultations of the Chairman with delegations. (See Annex I for the list of experts.)
3. Thirteen background papers on various items under consideration were presented in the course of the consultations. (See Annex II for the list of background papers.)
4. At the invitation of the Chairman and on the basis of the decision of the Committee on Disarmament, taken at its 163rd plenary meeting, as contained in Working Paper No. 57 of 10 March 1982, Dr. M. Mercier, Manager of the ILO/UNEP/WHO International Programme on Chemical Safety and Dr. F. Valic, Scientist for that Programme, as well as Dr. J.W. Huismans, Director of the UNEP International Register of Potentially Toxic Chemicals, attended some of the consultations.

5. The main findings of the consultations are presented below in the order in which their discussion was foreseen in the time-table of the consultations.

1. Specific testing methods for determinations of acute lethal toxicity including, inter alia, possible approaches to the elaboration of standardized methods of toxicity determination of mixtures of chemicals

6. As a result of the discussion of presented working papers, the participants in the consultations unanimously agreed to recommend standardized operating procedures for acute subcutaneous toxicity determinations, on the basis of document CD/CW/CTC/7. These recommendations are contained in Annex III to this report.

7. Tests for determining lethal toxicity using inhalation or intravenous routes of administration were also discussed. These discussions are outlined below in paragraph 11.

8. Some concern was expressed that a simple screening test for lethal toxicity might, in unusual cases, cause a chemical to be placed in an inappropriate category. It was generally felt that a solution to this problem still needed to be elaborated. As one possible solution, it was suggested that it would be desirable to provide a Consultative Committee with sufficient flexibility to deal with such situations.

9. The application of toxicity criteria to "precursors" of chemical warfare agents was discussed. In this connection, several alternative approaches were presented regarding definitions and terminology (see Annex V). Use of the additional term "key precursor" - or alternatively, "key CW precursor" - was suggested. It was proposed that, as in the case of CW agents, the general purpose criterion should be the principal criterion. It was generally agreed that toxicity criteria could not be applied directly to the precursors themselves; the military significance of a precursor would be unrelated to its toxicity, which would generally be much less than that of the end product CW agent to which it corresponded. The view was expressed that the end product could generally be identified chemically and tested for toxicity. The suggestion was also made that this would permit restrictions on a particular "key CW precursor" to be made equivalent to those applied to the end product. Thus, under the suggested approach, indirectly, the toxicity criteria based on standardized toxicity determinations would determine the restrictions and verification measures applied to "key CW precursors".

Some delegations expressed the view that the discussions had shown that no toxicological solution had as yet been found to the question of the utilization of toxicity criteria to classify the binary systems according to toxicity levels. They also felt that the toxicity of the final product formed in binary systems could not

be determined with accuracy and depended on many factors which could not be taken into account in advance. A further view was expressed that, if this were the case, it would be true of all processes for making CW agents, including conventional, binary and other multicomponent systems.

10. The view was expressed that in the case of a mixture, assignments and prohibitions could be based on the categories assigned to its components. Thus, initial toxicity testing of a mixture during verification activities based on the recommended screening methods may provide an indication of the category of the mixture's components and could suggest the need for further investigation and identification of these components to complete the verification process.

II. Circumstances in which inhalation methods are required, supplemented if necessary, by intravenous toxicity determination

11. With respect to circumstances under which standardized inhalation tests could be used, the general opinion was that such tests would be needed for special purposes. It was felt that inhalation tests should be performed when the test agent: (i) is a gas or a low boiling point liquid; (ii) has a direct effect on the broncho-pulmonary system; and (iii) when the results of the subcutaneous tests are equivocal. It was felt that if inhalation tests had to be applied, they would not need to be supplemented by the intravenous toxicity tests.

12. As a result of the discussion of presented working papers, the participants in the consultations unanimously agreed to recommend standardized operating procedures for acute inhalation toxicity determination on the basis of document CD/CW/CTC/6, as amended. These recommendations are contained in Annex IV to this report.

III. Possible criteria based on other types of harmful effects

13. The conclusions drawn from last year's consultations were generally found valid, namely that in addition to lethal toxic effects, incapacitation and other harmful effects are of importance for the treaty. However, there is no suitable general method for determination of incapacitating effects. Some useful suggestions for further investigation were noted. It was also noted that work was being conducted in the WHO, which might be of relevance to this problem. The question of the possible need, in the future, for methods to ascertain long-term, delayed and non-reversible effects was also touched upon in this connection. Differing views were expressed.

14. It was generally felt that the situation with respect to the "other harmful effects" criteria should be reviewed if new developments occurred. The need for procedures under a future convention, which could provide for the reviewing of technical improvements of benefit to the application of the technical provisions in a convention was restated.

15. In view of the technical difficulties encountered in the efforts to find standardized testing methods in this field, it was suggested that an illustrative list of some known agents and types of agents and their properties could be utilized as a supplementary measure for dealing with "other harmful chemicals".

IV. Inventory of international standardized methods for toxicity determinations

16. The efforts of the WHO and UNEP in endeavouring to provide internationally available standardized methods for toxicity determinations were again noted. It was also pointed out that for national purposes many possibilities now existed to provide a party to a future convention with information on toxicological and chemical analyses. Certain of these institutes regularly carry out such analyses for clients outside the country of their establishment and have always done this under the strictest confidentiality.

V. Other items

17. During the discussions some particular problems emerged which were given consideration. Among these were the need to identify the possible conditions under which a particular test should be applied, since these conditions might influence the way in which the test was performed and the results of the test. Particularly, the problem of the status of the sample to be tested was considered to be an important question, with bearing also on the chemical processes to which the samples might be subjected.

Topics for future consultations

18. Under items I-IV, topics for future consultations related to toxicity determination were discussed. Some felt that the principal work with respect to toxicity determination had been completed with the recommendation of two standardized toxicity test protocols. Others considered that consultations organized by the Chairman for the purpose of elaborating measures for determining the toxicity of chemicals had not yet led to the necessary results. Thus, they considered that it would be desirable to continue such consultations and discuss, in particular the following:

(A) with respect to further toxicity determinations:

- (i) standardization of the determination procedures of "other harmful chemicals";
- (ii) toxicological aspects of precursors and mixtures of chemicals in connection with binary weapons.

- (B) with respect to other toxicological problems:
- (i) important side and delayed effects of chemical weapon agents;
 - (ii) elaboration of illustrative lists of chemicals for weapons purposes
 - (a) other harmful chemicals including incapacitants
 - (b) precursors of binary weapons.

Others suggested the following additional topics:

- toxicological aspects of precursors and mixtures of chemicals in connection with all types of chemical weapons, including conventional, binary and other multicomponent chemical weapons;
- elaboration of illustrative lists of precursors of all types of chemical weapons, including conventional, binary and other multicomponent chemical weapons;
- use of toxicity tests in on-site visits.

19. Under item V, the following suggestions were made for consultations with experts, in an appropriate framework, regarding other technical problems related to a chemical weapons convention:

- (i) alternative technical approaches to definition of the term "precursor";
- (ii) technical procedures for verification of specific activities: destruction of declared stockpiles;
- (iii) technical evaluation of concepts and technology for the collection, transmission and processing of information in the context of a chemical weapons convention;
- (iv) general information on national chemical industries which should be taken into account in developing a verification system, with specific reference to commercial chemicals which present the greatest risk of diversion to chemical weapons purposes.

Mr. A.F. Kuznetsov
Mr. V.M. Tcherednichenko
Dr. A.B. Inch
Mr. H. Mikhalak
Dr. P. Prescott Ward
Col. R. Ray
Prof. N. Myrskopoulos
Prof. Dr. Jotvedis

ANNEX I
LIST OF EXPERTS

MEMBER STATES:

Australia: Dr. Shirley Freeman

Belgium: Capt. H.C. De Bisschop

Bulgaria: Lt. Col. N. Mihailov

Canada: Dr. M.C. Hamblin
Dr. A.H. Gray

China: Mr. Li Weimin

Czechoslovakia: Dr. J. Franěk^V

France: Col. B. Gesbert

German Democratic Republic: Prof. Kh. Lohs

Germany, Federal Republic of: Prof. Dr. J. Pfirschoke

Hungary: Col. Dr. E. Sebok

Indonesia: Maj. B. Simanjuntak

Italy: Capt. R. di Carlo

Japan: Maj. T. Oshikawa

Netherlands: Dr. A.J.J. Ooms

Poland: Prof. S. Rump
Col. J. Cialowicz

Romania: Col. Dr. M. Dogaru

Sweden: Dr. S.J. Lundin
Dr. S.Å. Persson

USSR: Mr. A.P. Kutepov
Mr. V.M. Tcherednichenko

UK: Dr. T.D. Inch

USA: Dr. R. Mikulak
Dr. F. Prescott Ward
Col. C. Bay
Prof. N. Kyriakopoulos

Yugoslavia: Prof. Dr. Vojvodić

NON-MEMBER STATES:

Austria: Gen. Böhm
Denmark: Dr. J. Leerhoy
Norway: Dr. F. Fornum
Switzerland: Dr. U. Imobersteg

WORLD HEALTH ORGANIZATION: Dr. M. Mercier
Manager
International Programme on Chemical Safety
(UNEP, ILO, WHO)

Dr. F. Valic
Scientist
International Programme on Chemical Safety

UNITED NATIONS ENVIRONMENT
PROGRAMME:

Dr. J.W. Huismans
Director
International Register of Potentially
Toxic Chemicals (IRPTC)

BACKGROUND PAPERS PRESENTED

- CD/CW/CTC/1 Working Paper submitted by the United Kingdom
- CD/CW/CTC/2 Working Paper on toxicity of mustard gas, nitrogen mustard and lewisite for subcutaneous administration and cutaneous application on rats, submitted by Italy
- CD/CW/CTC/3 Working Paper on the definition and criterion of "other harmful chemical", submitted by China
- CD/CW/CTC/4 Suggestion for definition of 'precursor' for a Chemical Weapons Convention, submitted by Sweden
- CD/CW/CTC/5 Working Paper submitted by Norway
- CD/CW/CTC/6 Standard operating procedures in acute inhalation toxicity determinations, submitted by Poland
- CD/CW/CTC/7 Standard operating procedures in acute subcutaneous toxicity determinations, submitted by Poland
- CD/CW/CTC/8 Working Paper submitted by Czechoslovakia
- CD/CW/CTC/9 Radioactive labelled compounds for testing procedures in toxicology, submitted by the German Democratic Republic
- CD/CW/CTC/10 Toxicity criteria and testing methods, submitted by Australia
- CD/CW/CTC/11 Comments on apparatus to be used for vapour inhalation experiments, submitted by Norway
- CD/CW/CTC/13 "Precursors", submitted by the United States of America
- CD/CW/CTC/14 Mixtures of chemicals, submitted by Canada

Note: Documents CD/CW/CTC/12 and Rev.1 (available in English only) contain the draft report of the Chairman of the Working Group on Chemical Weapons to the Working Group on the consultations. The present report itself was issued under symbol CD/CW/WP.30.

02/07/73
1973
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02/07/73 Working Paper submitted by the United Kingdom

02/07/73 Working Paper on control of output and process control and facilities for automatic administration and automatic regulation on cars, submitted by Italy

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

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02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

02/07/73 Working Paper on the definition and criteria of "other motor vehicles", submitted by Spain

Notes: Documents 02/07/73 and 02/07/73 (available in English only) contain the draft report of the Working Group on Control Systems and the Working Group on the environment. The present report itself is the report under symbol 02/07/73.

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 LD₅₀ for subcutaneous administration were established to separate three toxic categories at 0.5 mg/kg and 10 mg/kg.

2. Principles of the test method

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

3. Description of the test procedure

3.1 Experimental animal Healthy young adult male albino rats of Wistar strain weighing 200 ± 20 g should be used. The animals should be acclimatized to the laboratory conditions for at least five days prior to the test. The temperature of the animal room before and during the test should be $22 \pm 3^{\circ}\text{C}$ 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; twenty 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 seven days. If the death rate is lower than ten animals, another group of twenty 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 seven 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 chemical .

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; twenty 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 onto a suitable heating system (e.g. hot plate)

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

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

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

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

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

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

(iii) temperature and humidity.

3.5 Test method Twenty animals are exposed for 10 minutes to the concentration of 200 mg/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 twenty 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 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".

ANNEX V

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.

leading to a CW agent would be considered a 'precursor' and would be subject to the general purpose criteria.

(b) For the purpose of regulation and verification, attention would be focussed on a list of 'key precursors', which would be precursors which were agreed to be of particular significance. Both individual compounds and classes of compounds could be listed. The Consultative Committee would be responsible for revision of the list.

(c) The restrictions applied to 'key precursors' would be equivalent to those applied to the corresponding toxic chemicals themselves. Thus, indirectly, the toxicity criteria would determine the restrictions applied to 'key precursors'.

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Each test should be designed to determine the stability of the test system under conditions of maximum variation. The test should include the following information: (i) test chamber (type, dimensions, source of air, system for circulating air, etc.), and equipment for measuring temperature, humidity, etc.

(ii) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(iii) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(iv) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(v) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(vi) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(vii) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

(viii) Test chamber: air flow rate, temperature and humidity of air entering and leaving the chamber, and test apparatus for measuring the concentration of the test substance in the test chamber.

ANNEX V

SUGGESTED DEFINITIONS

(A) Definition contained in CD/CW/CTC/4 :

" 'Precursor' is the starting reactant in a one pot chemical synthesis forming a super-toxic lethal or other lethal chemical, which determines the main characteristics (class of compound, toxicity, etc.) of the compound formed, when the reaction is taking place :

- (1) in a chemical weapon warhead or other disseminating device for chemical weapons, immediately before the dissemination of the final, toxic product;
- (2) in a production facility producing super-toxic lethal or other lethal chemicals."

(B) Definition contained in CD/CW/CRP.31 :

" 'Precursors' which could be used to produce chemical weapon agents are :

- (a) Any chemical which could be used in a reaction sequence leading to a CW agent would be considered a 'precursor' and would be subject to the general purpose criterion.
- (b) For the purposes of regulation and verification, attention would be focussed on a list of 'key precursors', which would be precursors which were agreed to be of particular significance. Both individual compounds and classes of compounds could be listed. The Consultative Committee would be responsible for revision of the list.
- (c) The restrictions applied to 'key precursors' would be equivalent to those applied to the corresponding toxic chemicals themselves. Thus, indirectly, the toxicity criteria would determine the restrictions applied to 'key precursors' "

Yugoslavia

CD/CW/WP.31

Binary Weapons and the
Problems of Their
Definition and
Verification

Also issued as
CD/266
24 March 1982

NOT REPRODUCED
(see WP volume)

USA
UK
Australia

CD/CW/WP.32

Technical Evaluation of
"RECOVER" Techniques for
CW Verification

Also issued as
CD/271
1 April 1982

NOT REPRODUCED
(see WP volume)

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

Compilation of revised Elements and Comments
thereto (CD/220), proposed new texts and
alternative wordings as well as comments on
new texts

GE.82-62380

PREAMBLE

I. A. Text as contained in document CD/220

None

B. Text as proposed by the Chairman (CD/CW/CRP.47)

The States Parties to this Convention,

Reaffirming their adherence to the objectives of general and complete disarmament, including the prohibition and elimination of all types of weapons of mass destruction,

Convinced that the prohibition of the development, production and stockpiling of chemical weapons and their destruction represent a necessary step towards the achievement of general and complete disarmament under effective international control,

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

In conformity with an undertaking contained in the Convention, on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction, to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of the development, production and stockpiling of chemical weapons and on their destruction,

Recognizing the important significance of the Geneva 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 also of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction, in force since 26 March 1975, and calling upon all States to comply strictly with the said agreements,

Guided by the principle of non-diminished security of any State or group of States,

In accordance with the objectives and principles of the Charter of the United Nations,

II. A. Comments as contained in document CD/220

None

B. Summary by the Chairman of initial comments made during the first part of the 1982 session (CD/CW/CRP.58)

1. Delegations which commented on the draft Preamble proposed by the Chairman noted that they considered this to be a first reading and that their comments were to be recorded as preliminary only, since they had not had sufficient time to study this new text. More comments were to follow during the second reading later in 1982.

2. Some delegations felt that a preamble to a convention should only be elaborated once the body of that convention is agreed upon.

With respect to the first preambular paragraph

3. Some delegations thought that general and complete disarmament was one objective, namely, the ultimate one. The word objective should thus be used in the singular. Furthermore, it was difficult for a State to "adhere to an objective". The idea to be reflected in this paragraph should rather be the determination of States to achieve the final objective of general and complete disarmament.

4. A delegation suggested that one should refer in this context to the entire recognized objective of general and complete disarmament under effective international control.

With respect to the second preambular paragraph

5. Some delegations felt that a convention, so as to be comprehensive in nature, should aim at prohibiting chemical weapons in all their aspects and therefore also include a prohibition of use of chemical weapons in the scope of a convention.

6. A delegation proposed that this paragraph should refer to the total destruction of chemical weapons, which would ensure that they could not be used. Others thought that it would be difficult to cover the question of "use" in this convention.

7. Some delegations thought that this paragraph should specify that the destruction of chemical weapons should be accompanied by adequate verification.

With respect to the third preambular paragraph

8. Some delegations felt that if the purpose of this paragraph was to speak of chemistry as it is used in chemical warfare, this sentence should be amplified because chemistry could be used by military establishments for a variety of purposes which do not involve the use of these chemicals as weapons, but as propellants or fuels, etc. Such use cannot be forbidden in a chemical weapons convention, yet it cannot be said that such use is exclusively for the benefit of mankind.

9. A delegation suggested that the general ideas on the promotion of peaceful co-operation among States and the efforts to strengthen international co-operation in scientific fields, especially in that of chemistry, should be reflected in this paragraph.

With respect to the fourth preambular paragraph

10. Some delegations felt that this was not the only convention to be mentioned in this context. Specifically, it was suggested that an appropriate way be found to refer to the obligations under the 1925 Geneva Protocol. Others felt that this paragraph was appropriately formulated, as it reflected a very specific commitment assumed by Parties to the Biological Weapons Convention.

11. A delegation pointed out that its country was not a party to the Biological Weapons Convention and could therefore not be bound by any commitment embodied in that Convention.

With respect to the fifth preambular paragraph

12. Some delegations felt that reference to the Geneva Protocol of 1925 would depend on the handling of the question of the prohibition of use of chemical weapons as part of the convention under negotiation.

13. A delegation expressed reservations with regard to the reference to the Biological Weapons Convention, to which its country was not a party; it could not associate itself with an appeal to comply with the provisions of that Convention.

With respect to the sixth preambular paragraph

14. A delegation felt that this wording implicitly authorized a State Party to the Convention to again take up the development, production and stockpiling of chemical weapons if they deemed it necessary from a security point of view. Such an impression should be avoided.

15. Some delegations felt that there were many other principles that should guide States in signing a convention of that importance. There was no reason to single out the principle of "non-diminished security" for the preamble to this convention from among the many that the international community has agreed upon over the years. However, if it were agreed to include this principle in this preamble, this should better be done by referring to it in its full context which was that of the non-diminished security of any States at lower levels of armaments.

With respect to the seventh preambular paragraph

16. A delegation thought that the words "in accordance with" were not appropriate. It would be preferable to say that in order to further the objectives and principles of the Charter of the United Nations, States Parties undertake to ...

17. Some delegations felt that this paragraph was too general and that it would have to be rediscussed more thoroughly.

III. Concrete alternative wording proposed

A. With respect to the above Comments
with respect to Comment No. 6

A delegation proposed the following text (CD/CW/CRP.56):

Convinced that the complete prohibition and total destruction of chemical weapons represent a necessary step towards the achievement of general and complete disarmament under effective international control.

B. Without specific reference to Comments

None

ELEMENT I : GENERAL PROVISION

I. A. Text as contained in document CD/220

Each State Party to this Convention should undertake, as set forth in the following Elements, never under any circumstances to develop, produce, otherwise acquire, stockpile, retain or transfer chemical weapons and to destroy or otherwise dispose of existing stocks of chemical weapons and means of production of such weapons.

B. Proposal by the Chairman for Element I
(linguistic changes only)

Each State Party to this Convention undertakes, under no circumstances, to develop, produce, otherwise acquire, stockpile, retain or transfer chemical weapons and to destroy or otherwise dispose of existing stocks of such weapons and the means of their production.

II. Comments as contained in document CD/220

1. Some delegations regarded this element as superfluous on the ground that it would complicate the structure of the main prohibition under the convention and would render this prohibition less distinct. They asserted that mentioning in this element some prohibitions but not others would give rise to ambiguities regarding the scope of a convention. Others, who agreed with this element, believed that it was essential because it stated in clear terms the two main purposes of a convention, namely a set of prohibitions and an obligation to destroy the existing stocks of chemical weapons and the means of production of such weapons. Furthermore, this element would ensure the binding character of the undertakings to be entered into by the Parties to a future convention.
2. Some delegations felt that a convention, so as to be comprehensive in nature, should aim at prohibiting chemical weapons in all their aspects and therefore also include a prohibition of use of chemical weapons in the scope of a convention. They held, inter alia, that this would strengthen the prohibition contained in the 1925 Geneva Protocol by adding measures of verification to it and by enlarging it to cover some hostile situations which they deemed not to be covered by the Protocol, whose scope of prohibition, in their view, only covers the use of chemicals in war. Others felt that a comprehensive prohibition of use was already contained in the 1925 Protocol, and that it should therefore not be restated because it would lead to the weakening of that Protocol. According to some delegations the verification mechanism of a future convention would also entail the division of States Parties to the Protocol into two categories on the basis of their obligations, namely those who

have become Parties to a convention, and thus accepted the obligations of verification under it and those who have not become Parties to a convention and therefore have no such obligations. It was further felt by some that restating the prohibition of use would cast doubts on the recognized value of the Protocol. All agreed however that nothing in this convention should detract from the effectiveness of the 1925 Protocol.

3. Some delegations supported the idea of including in the scope of a convention a prohibition specifically of planning, organization and training intended to enable the utilization of toxic properties of chemicals as chemical weapons in combat, in order to completely eliminate chemical warfare capability. Others objected that such a prohibition would be difficult to implement and verify. It was asserted, in addition, that the prohibition of the development, production, stockpiling and retention of all means of chemical warfare, including corresponding chemicals, munitions, devices and equipment as well as means of production of chemical weapons would lead to the elimination of the actual chemical warfare potential.

4. Some delegations felt that the scope of a convention should include the prohibition of development etc. of chemicals for hostile purposes, involving the utilization of toxic properties of such chemicals not only against man but also against animals and plants. Some delegations indicated that they would prefer the scope of a convention to be extended to all chemicals capable of having toxic effects on all components of the environment. Others thought that the prohibition should refer to hostile purposes, involving the utilization of toxic properties of chemicals against man only, because, inter alia, the widespread civilian use of some of these chemicals would make verification very difficult.

5. Some delegations suggested that the link between the scope of the Biological Weapons Convention and that of a chemical weapons convention should be referred to wherever appropriate.

III. Concrete alternative wording proposed

A. With respect to the above Comments with respect to Comment No. 1

A delegation proposed the following text (CD/CW/CRP.19):

"Each State Party to this Convention should undertake never and under no circumstances to develop, produce, otherwise acquire, stockpile or retain chemical weapons and to destroy or otherwise dispose of existing stocks of such weapons and the means of their production, not to transfer chemical weapons or the means of their production to anyone, and not to station such weapons on foreign territories, as well as not to assist, encourage or induce anyone to engage in activities from which the State Party itself would be obliged to refrain under the Convention."

with respect to Comment No. 2

Some delegations proposed the following text (CD/CW/CRP.24):

"Each State Party to this Convention undertakes never in any circumstances to develop, produce, otherwise acquire, stockpile, retain, transfer or use chemical weapons and to destroy or otherwise dispose of existing stocks of chemical weapons and means of production of such weapons."

with respect to Comment No. 3

None

with respect to Comment No. 4

None

with respect to Comment No. 5

None

B. Without specific reference to Comments

None

ELEMENT II: GENERAL DEFINITION OF CHEMICAL WEAPONS

I. Text as contained in document CD/220

1. Chemical weapons, as referred to in Element I, would comprise:

(a) super-toxic lethal, other lethal, and other harmful chemicals as well as precursors of such chemicals, intended for hostile or military purposes involving the utilization of the toxic properties of such chemicals as weapons, provided their types are compatible with and that their quantities are sufficient for such purposes;

(b) munitions and devices, specifically designed to cause death or other harm through toxic properties of chemicals released from them as well as equipment specifically designed for use directly in connection with the employment of such munitions or devices.

2. Definitions of super-toxic lethal chemicals, other lethal chemicals, other harmful chemicals and precursors would be given in Annex I.

II. Comments as contained in document CD/220

1. Some delegations suggested that elements I and II, for increased clarity, should be combined and formulated along the lines in element I in CD/CW/WP.19. The Prohibition would then cover the development, production, acquisition, stockpiling, and retention of: (a) super-toxic lethal, other lethal and other harmful chemicals, and precursors of such chemicals, except those intended for non-hostile purposes or military purposes not involving the use of chemical weapons, provided their types and quantities are consistent with such purposes; (b) any munitions or devices, specifically designed to cause death or other harm through the toxic properties of the chemicals released as a result of the employment of these munitions or devices; (c) any equipment specifically designed for use directly in connection with the employment of such munitions or devices. Other delegations would prefer to maintain the formulation of element I, which seemed to them to reflect in a very clear manner the main purpose of a convention, which deals with a set of prohibitions, on the one hand, and with a precise obligation to destroy existing stocks and means of production, on the other. Element II would then contain the definition of chemical weapons, both for the purpose of the prohibitions and for the purpose of destruction.

2. A delegation suggested that on logical grounds the subparagraphs in paragraph 1 of the element should be presented in the reversed order.

3. Some delegations suggested the insertion of the words "chemical warfare agents, made up of" after "(a)" and before "super-toxic lethal".

4. Some delegations also wished to have definitions of "chemical warfare agents", "hostile purposes", "non-hostile purposes", "permitted purposes", "chemical munitions" and "means of production of chemical weapons" included.
5. Some delegations felt that all the definitions should be included in the main body of a convention and not in an annex. However the technical details such as those related to methods for toxicity determinations should remain in the annex.
6. Some delegations suggested that chemical weapons should be understood to include certain chemical substances which, even if they are not toxic in nature could be employed as chemical weapons, for instance, psychochemicals and herbicides. Others saw great practical difficulties in this proposal.
7. Some delegations considered that the general purpose criterion was not made sufficiently clear in this element. In their view the definition of chemical weapons should be formulated so as to state that these weapons include all kinds of chemical warfare agents whose toxic properties can be used for hostile purposes to cause death, injury or harm to human beings, animals and plant life.

III. Concrete alternative wording proposed

A. With respect to the above Comments

with respect to Comment No. 1

- A delegation proposed the following text for paragraph 1 of Element II (CD/CW/CRP.20).

"Chemical weapons, as referred to in Element I, would comprise:

(a) super-toxic lethal, other lethal and other harmful chemicals, and precursors of such chemicals, except those intended for non-hostile purposes or military purposes not involving the use of chemical weapons, provided their types and quantities are consistent with such purposes;

(b) any munitions or devices, specifically designed to cause death or other harm through the toxic properties of the chemicals released as a result of the employment of these munitions or devices;

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

with respect to Comment No. 2

None.

with respect to Comment No. 3

None.

with respect to Comments Nos. 4 and 5

- A delegation proposed to delete paragraph 2 of Element II, as contained in document CD/220, and to replace it by the text below (CD/CW/CRP.22). This text would also replace the text of Annex I, paragraphs 1-4, which should thus be deleted in the Annex.

"Delete paragraph 2 of Element II, as contained in document CD/220, and replace by the following:

2. For the purposes of this Convention:

(a) a 'super-toxic lethal chemical' is any toxic chemical, with a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or or 2,000 mg-min/m³ (by inhalation), when measured by the agreed methods set forth in Annex I;

(b) any 'other lethal chemical' is any toxic chemical with a median lethal dose which is greater than 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation) and which is less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the agreed methods set forth in Annex I;

(c) any 'other harmful chemical' is any toxic chemical with a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the agreed methods set forth in Annex I;

(d) 'permitted purposes' are non-hostile purposes and military purposes which are not connected with the use of chemical weapons.

(e) 'non-hostile purposes' are industrial, agricultural, research, medical or other peaceful purposes, law-enforcement purposes or purposes directly related to protection against chemical weapons."

- A delegation proposed the following new text (CD/CW/CRP.57) as a continuation to the suggested alternative wording for paragraph 2(d) of Element II as contained in document CD/CW/CRP.22 (above):

"(d) 'permitted purposes' are non-hostile purposes and military purposes which are not connected with the use of chemical weapons as well as activities connected with medical and technical protection."

with respect to Comment No. 6

None.

with respect to Comment No. 7

None.

B. Without specific reference to Comments

None.

ANNEX I: DEFINITIONS AND CRITERIA.

I. Text as contained in document CD/220

1. Definitions, criteria and methods in this Annex would be agreed upon for the purpose of this Convention.
2. A "super-toxic lethal chemical" is any toxic chemical, however produced, with a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation), when measured by the methods set forth in paragraph 6 of this annex.
3. Any "other lethal chemical" is any toxic chemical, however produced, with a median lethal dose which is greater than 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation) and which is less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the methods set forth in paragraph 6 of this annex.
4. Any "other harmful chemical" is any toxic chemical, however produced, with a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by the methods set forth in paragraph 6 of this annex.
5. "Precursors" are sets of chemicals, which, when made to react chemically with each other, form among others also such chemicals as are mentioned in paragraphs 2-4 of this Annex.
6. Methods for toxicity determinations and identification of chemicals.

[to be elaborated]

II. Comments as contained in document CD/220

1. It was generally felt that the definition of "precursors" required further study.
2. Some delegations objected to the expression "however produced" in paragraphs 2-4 on the grounds that it would lead to confusion with regard to the Biological Weapons Convention.

III. Concrete alternative wording proposed

A. With respect to the above Comments

with respect to Comment No. 1

None.

with respect to Comment No. 2

- A delegation proposed a text (CD/CW/CFP.22) to replace the existing paragraphs 1 to 4 of Annex I (see page 11 of this compilation).

B. Without specific reference to Comments

None.

ELEMENT III: PROHIBITION OF TRANSFER

I. A. Text as contained in document CD/220

Each State Party to this Convention should undertake:

- (a) not to transfer to anyone, directly or indirectly, any chemical weapons;
- (b) not to transfer to anyone, directly or indirectly, except to a State Party, any super-toxic lethal chemicals produced or otherwise acquired for permitted purposes, of types and in quantities which are suitable for chemical weapons purposes;
- (c) not to assist, encourage or induce, directly or indirectly, anyone to engage in activities from which the State Party itself would be obliged to refrain under the Convention.

B. Proposal by the Chairman for Element III

Each State Party to the Convention undertakes:

- (a) not to transfer to anyone, directly or indirectly, any chemical weapons;
- (b) not to transfer to anyone, directly or indirectly, except any other State Party, the supertoxic lethal chemicals for the permitted purposes;
- (c) not to assist, encourage and induce, directly or indirectly, anyone to the activity, which the States Parties undertake not to carry out in accordance with the provisions of the Convention.

II. Comments as contained in document CD/220

1. Some delegations thought that the prohibition to transfer super-toxic lethal chemicals should be extended to other lethal chemicals. A delegation, however, felt that the prohibition on transfer of super-toxic lethal chemicals, except to State Parties, contained in (b) above, was subsumed under (c). No special provision therefore needed to be made with respect to super-toxic lethal chemicals, especially since this might imply less than strict application of the provision under (c).
2. A delegation considered that the right implied in element III to transfer super-toxic lethal chemicals in types and quantities suitable for chemical weapons purposes to another State Party should only apply when these chemicals are intended for permitted purposes.
3. Some delegations suggested that States Parties should be permitted to transfer to other States Parties their existing stocks of chemical weapons for the purpose of the destruction of these weapons.
4. Some delegations felt that the wording of this prohibition was not sufficiently clear because of the ambiguity in the definition of chemical weapons.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None.

B. Without specific reference to Comments

A delegation proposed the following wording (CD/CW/CRP.25) for a separate element to be inserted after Element III in document CD/220:

Element III Bis

"Each State Party to this Convention undertakes during the period of implementation of the commitments envisaged in element ... concerning the destruction and diversion of stocks of chemical weapons for non-hostile purposes not to station such weapons under its jurisdiction directly or indirectly on the territory of other States."

A delegation proposed the following text (CD/CW/CRP.27) as a continuation to the wording for a new Element III Bis contained in CD/CW/CRP.25:

"Each Party to this Convention further undertakes to recall to its own national territory, no later than six months after acceding to the Convention, all chemical weapons stationed under its jurisdiction on the territory of other States."

ELEMENT IV: DECLARATIONS

I. Text as contained in document CD/220

1. Each State Party to this Convention should undertake to declare within 30 days after the Convention has entered into force or the State Party has adhered to it:

- (a) its possession or non-possession of chemical weapons;
- (b) its stocks of chemical weapons and means of production of such weapons;
- (c) its plans for the destruction or, where appropriate according to Element V, diversion for permitted purposes of declared stocks of chemical weapons;

(d) its plans for the destruction, dismantling or, where appropriate according to Element V, conversion of declared means of production of chemical weapons.

2. Super-toxic lethal chemicals, acquired for non-hostile military purposes, should be declared. The location of facilities where super-toxic lethal chemicals are produced for such purposes should also be declared. Matters concerning the content and form would be set forth in Annex II.

II. Comments as contained in document CD/220

1. Some delegations considered that this element does not ensure a differentiated approach to the declarations, each of which has its own specificity. The element would have to be rearranged as regards the scope of activities to be declared and the time frames for various declarations.

2. Some delegations suggested that all States Parties possessing stocks of chemical weapons and means of production of such weapons should simultaneously make the relevant declarations.

3. Some delegations thought that all declarations should be made immediately at the entry into force of the convention or at the time of accession of States Parties.

4. Some delegations felt that declarations concerning the location of the stocks of chemical weapons could not be provided within the time limit stipulated in the element.

5. Some delegations suggested that chemical weapons munitions filling facilities and specific weapon systems designed for the employment of chemical warfare agents should be declared at the entry into force.

6. Some delegations considered that States Parties should declare not later than 10 years after the entry into force of the convention the complete cessation of activities and the destruction or conversion of materials and facilities which are needed for the planning, organization and training intended to enable the utilization of toxic properties of chemicals as chemical weapons in combat.

7. Some delegations felt that the wording of this element was not sufficiently clear because of the ambiguity in the definition of chemical weapons.

III. Concrete alternative wording proposed

A. With respect to the above Comments
with respect to Comments Nos. 1 and 4

Two delegations made the following proposal (CD/CW/CRP.30):

"1. Each State Party to the Convention should undertake to destroy or to divert to non-hostile purposes, in an amount corresponding to such purposes, the stocks of chemical weapons declared in accordance with Element IV.

2. Each State Party to the Convention should be entitled:

(a) To re-equip provisionally, for the purposes of destroying stocks of chemical weapons, the means of production previously used for the manufacture of such weapons;

(b) To carry out the destruction of stocks at a special installation or installations built for that purpose.

3. Destruction and diversion of the stocks of chemical weapons should be carried out by each State Party in accordance with a plan. Each such plan should be declared not later than six months after the State concerned becomes a Party to the Convention.

4. Each State Party should initiate operations to destroy or divert its stocks of chemical weapons no later than two years after it becomes a Party to the Convention and complete them no later than ten years after that date. When such operations are carried out earlier than is provided for in the plan, the State Party concerned should make an appropriate notification."

B. Without specific reference to Comments

A delegation proposed the following text (CD/CW/CRP.28) in relation to Element IV.1.(b):

"1. (b) its stocks of chemical weapons and means of production of such weapons on its territory or in any place whatsoever under its jurisdiction or control."

A delegation proposed the following text (CD/CW/CRP.32) as alternative wording for Element IV:

"1. Each State Party to this Convention should undertake to declare within 30 days after the Convention has entered into force or the State Party has adhered to it:

- (a) its possession or non-possession of chemical weapons;
- (b) its stocks of chemical weapons and means of production of such weapons;
- (c) its plans for the destruction of declared stocks of chemical weapons;
- (d) its plans for the destruction or dismantling of declared means of

production of chemical weapons. Where appropriate according to Element V, declared means of production of chemical weapons could be converted for purposes of destruction, on a temporary basis.

2. Super-toxic lethal chemicals, acquired for non-hostile military purposes, should be declared. The location of facilities where super-toxic lethal chemicals are produced for such purposes should also be declared. Matters concerning the content and form would be set forth in Annex II."

A delegation, in proposing the following text (CD/CW/CRP.39) for a new subparagraph for Element IV, indicated that it should be inserted between (b) and (c) in document CD/220, page 14:

" - possession or non-possession on its territory of stocks of chemical weapons under control of other State."

A delegation suggested the following alternative wording (CD/CW/CRP.26) for Element IV:

"Each State Party to this Convention should declare not later than 30 days after becoming a party:

(a) The amount of accumulated stocks of chemical weapons which it possesses or which are situated on its territory or in any other place whatsoever under its jurisdiction or control;

(b) The means of production of chemical weapons which it possesses or which are situated on its territory or in any other place whatsoever under its jurisdiction or control;

(c) The amount of chemical weapons, technical equipment for their production and relevant technical documentation transferred to anyone after a certain agreed date."

ANNEX II: DECLARATIONS OF POSSESSION OF STOCKS OF CHEMICAL WEAPONS AND
MEANS OF PRODUCTION OF CHEMICAL WEAPONS, PLANS FOR THEIR
DESTRUCTION OR DIVERSION FOR PERMITTED PURPOSES AND TIME
FRAMES AS WELL AS FORMS FOR MAKING SUCH DECLARATIONS

I. Text as contained in document CD/220

1. The declarations stipulated in Element IV should contain information about:
 - (a) types and amounts of stocks of chemical weapons and of their location;
 - (b) location and capacity of means of production of chemical weapons, including specialized facility for permitted production of super-toxic lethal chemicals;
 - (c) plans for destruction or diversion of stocks of chemical weapons, including timing and specification of types and amounts and the location of plants for destruction and diversion;
 - (d) plans for the destruction, dismantling or conversion of means of production of chemical weapons, including their location and capacity.
2. Declarations as stipulated in Element IV should be forwarded to the Depositary, who would distribute them to the other States Parties to the Convention within one week after having received them.
3. Declarations should be sufficiently informative to allow independent verification of the information by national and international means of verification available to other States Parties to the Convention.

II. Comments as contained in document CD/220

1. Some delegations felt that it was premature to suggest the nature and content of declarations as long as no preliminary agreement had been reached on the general aspects of declarations in Element IV.
2. It was generally felt that further details would have to be elaborated concerning the standardization of forms for declarations.
3. Some delegations felt that States Parties should not have to declare the location of stocks of chemical weapons at the entry into force of the Convention but rather the location where they would be assembled at a specific time after the entry into force.
4. Some delegations felt that the wording of this annex was not sufficiently clear because of the ambiguity in the definition of chemical weapons.

III. Concrete alternative wording proposed

A. With respect to the above Comments
with respect to Comments Nos. 1 and 3

- Two delegations proposed the following text (CD/CW/CRP.30):

1. Each State Party to the Convention should undertake to destroy or dismantle the means of production of chemical weapons, declared in accordance with Element IV.

2. Destruction or dismantling of the means of production of chemical weapons should be conducted by each State Party in accordance with a plan. Each such plan should be declared no later than one year before the commencement of destruction or dismantling.

3. Each State Party should initiate operations for destruction or dismantling no later than eight years after it becomes a party to the Convention and complete them no later than ten years after that date. When such operations are carried out earlier than is provided for in the plan, the State Party concerned should make an appropriate notification.

with respect to Comment No. 2

None

with respect to Comment No. 4

None

B. Without specific reference to Comments

None

ELEMENT V: DESTRUCTION, DIVERSION, DISMANTLING AND CONVERSION

I. Text as contained in document CD/220

1. Each State Party to this Convention should undertake to:

(a) destroy or divert for permitted purposes its stocks of chemical weapons;

(b) destroy or dismantle its means of production of chemical weapons.

2. Means of production of chemical weapons could be converted temporarily, before final destruction or dismantling, for the purpose of destroying stocks of such weapons. The destruction, diversion and dismantling stipulated in this Element should be completed within ten years after the Convention has entered into force or a State Party, which has to fulfil these provisions, has adhered to it.

3. Matters concerning procedures, including notifications, in connection with what is stipulated in this Element would be set forth in Annex III.

II. Comments as contained in document CD/220

1. Some delegations expressed their objection in principle to the implied possibility of conversion/diversion. They could, however, accept the term "conversion" provided it was only temporary conversion of means of production of chemical weapons for the purpose of destroying stocks of such weapons.

2. Some delegations felt that destruction of stocks of chemical weapons should not take as long as 10 years. They thought, however, that if destruction must take so long, the stocks of chemical weapons should in the interim period be kept under international supervision.

3. Some delegations suggested that appropriate forms of international co-operation should be envisaged in order to facilitate the implementation of provisions related to the destruction of stocks of chemical weapons for all States Parties.

4. Some delegations felt that stocks of chemical weapons belonging to a State Party could be transferred for destruction purposes to another State Party and destroyed there.

III. Concrete alternative wording proposed

A. With respect to the above Comment

None

B. Without specific reference to Comments

- A delegation proposed the following text (CD/CW/CRP.33) as alternative wording for Element V:

1. Each State Party to this Convention should undertake to:

(a) destroy its stocks of chemical weapons;

(b) destroy or dismantle its means of production of chemical weapons.

2. Means of production of chemical weapons could be converted temporarily, before final destruction or dismantling, for the purpose of destroying stocks of such weapons. The destruction, diversion and dismantling stipulated in this Element should be completed within ten years after the Convention has entered into force or a State Party, which has to fulfil these provisions, has adhered to it.

3. Matters concerning procedures, including notifications, in connection with what is stipulated in this Element would be set forth in Annex III.

- A delegation proposed the following text (CD/CW/CRP.40) as alternative wording for Element V:

1. Each State Party to this Convention should start with activities in order to destroy or divert its stocks of chemical warfare agents, munitions, devices and equipment specifically designed for chemical warfare immediately after it becomes a Party to the Convention and complete them no later than ten years after that date.

2. Each State Party should also start with activities concerning destruction, dismantling or diversion/conversion of the means of production (plants, installations, specially constructed depots and other) of chemical warfare agents and chemical weapons. Means of production of chemical warfare agents and chemical weapons could be converted temporarily before the final destruction or dismantling, especially if they are converted into installations for the destruction of chemical warfare agents, but no later than ten years after the Convention has entered into force.

3. Matters concerning procedure, including notifications in connection with what is stipulated in this Element would be set forth in Annex III.

ANNEX III: DESTRUCTION, DISMANTLING OR DIVERSION FOR PERMITTED PURPOSES OF DECLARED STOCKS OF CHEMICAL WEAPONS AND THEIR MEANS OF PRODUCTION

I. Text as contained in document CD/220

1. Preparation for the destruction or diversion for permitted purposes of stocks of chemical weapons should start immediately after the entry into force of the Convention. So-called mothballing of means of production of chemical weapons should be undertaken immediately at the entry into force of the Convention and remain until their destruction, dismantling or diversion for permitted purposes would begin.
2. The provisions given in Element V should be performed in a manner allowing their verification through national and international means of verification.
3. The progress of destruction or diversion of stocks of chemical weapons and of destruction, dismantling or conversion of their means of production should be notified on a yearly basis to the Depositary until the State Party declares the final abolition of its stocks and means of production. The Depositary would transmit such notifications to the other States Parties to the Convention within one week after having received them.

II. Comments as contained in document CD/220

1. Some delegations felt that the contents of this annex must be further elaborated.
2. Some delegations felt that the suggested content of this annex to a large extent had no direct relation to element V, but dealt with aspects which were provided for in other elements and opposed this annex.
3. Some delegations felt that mothballing of means of production of chemical weapons should be under international supervision.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to comments

A delegation proposed the following alternative wording (CD/CW/CRP.34)
for Annex III:

1. Preparation for the destruction of stocks of chemical weapons should start immediately after the entry into force of the Convention. So-called mothballing of means of production of chemical weapons should be undertaken immediately at the entry into force of the Convention and remain until their destruction or dismantling would begin.
2. The provisions given in Element V should be performed in a manner allowing their verification through national and international means of verification.

3. The progress of destruction of stocks of chemical weapons and of destruction, dismantling or temporary conversion of their means of production should be notified on a yearly basis to the Depositary until the State Party declares the final abolition of its stocks and means of production. The Depositary would transmit such notifications to the other States Parties to the Convention within one week after having received them.

- A delegation proposed the following alternative wording (CD/CW/CRP.41) for Annex III, paragraph 3:

3. The progress of destruction, dismantling or diversion of declared stocks of chemical weapons and temporary conversion of their means of production should be notified on a six-month basis (for the first two years) and on a yearly basis thereafter to the Depositary until the State Party declares the final abolition of its stocks and means of production. The Depositary would transmit such notifications to the other States Parties to the Convention within one week after having received them.

ELEMENT VI: SUPER-TOXIC LETHAL CHEMICALS FOR NON-HOSTILE MILITARY PURPOSES

I. Text as contained in document CD/220

Each State Party should undertake not to possess super-toxic lethal chemicals for non-hostile military purposes in an aggregate quantity, which at any time exceeds one thousand kilogrammes. A State Party producing super-toxic lethal chemicals for non-hostile military purposes shall carry out such production at a single specialized facility, the capacity of which shall not exceed ...

II. Comments as contained in document CD/220

Some delegations questioned whether it was appropriate to permit all States Parties, irrespective of their size, to possess as much as 1,000 kilogrammes of super-toxic lethal chemicals for non-hostile military purposes. Others considered the amount of 1,000 kilogrammes for the mentioned purposes excessive for any State Party.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

None

ELEMENT VII: RELATIONSHIP WITH OTHER TREATIES

I. Text as contained in document CD/220

Nothing in this Convention should be interpreted as in any way limiting or detracting from the 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, or under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, opened for signature on 10 April 1972, or any other international treaty or any existing rules of international law governing armed conflicts.

II. Comments as contained in document CD/220

1. Some delegations considered that mention should also be made of the Convention on Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) Convention among the treaties referred to. Others would have preferred to see all references to specific treaties deleted.

2. Some delegations thought that the words "by any State under" should be replaced by "by States Parties to".

3. Some delegations proposed the deletion of the words "or any existing rules of international law governing armed conflicts" while others suggested the deletion of the word "existing" only.

III. Concrete alternative wording proposedA. With respect to the above Comments

None

B. Without specific reference to Comments

None

ELEMENT VIII: INTERNATIONAL CO-OPERATION

I. Text as contained in document CD/220

(1) This Convention should be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international co-operation in the field of peaceful and protective chemical activities, including the international exchange of chemicals and equipment for the production, processing or use of chemical agents for peaceful and protective purposes in accordance with the provisions of the Convention.

(2) Each State Party to this Convention should undertake to facilitate, promote and participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of chemicals for peaceful and protective purposes consonant with the aims of this Convention.

(3) Each State Party to this Convention should undertake to allocate a substantial part of possible savings in military expenditures as a result of disarmament measures agreed upon in this Convention to economic and social development, particularly of the developing countries.

II. Comments as contained in document CD/220

1. Some delegations considered that this element should contain categorical obligations for assistance to developing countries in training and equipping them with protective measures. A delegation further thought that a convention should include a provision for assistance to a State Party threatened with or subjected to a chemical attack.

2. Some delegations expressed concern, without questioning the importance of international co-operation measures referred to in this element, about the dangers of the transfer from one State Party to another of the technical knowledge necessary to produce chemical weapons.

3. Some delegations expressed doubts about the realism of the undertaking envisaged in paragraph 3 and suggested that it was inappropriate for inclusion in a chemical weapons convention. Others pointed out that the paragraph referred to "possible savings" and embodied a principle already accepted in other documents of the United Nations.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

None

ELEMENT IX: GENERAL PROVISIONS ON VERIFICATION

I. Text as contained in document CD/220

1. For the purpose of providing assurance of compliance with the provisions of this Convention, the States Parties should agree that verification would consist of national as well as international measures which should be considered as complementary to each other, as set forth in the following.

2. Such verification would be carried out through:

(a) monitoring of compliance with the obligations in Elements I-IV concerning prohibition of development, production, other acquisition, stockpiling, retention and transfer of chemical weapons;

(b) monitoring of compliance with the obligations in Elements I and V concerning

- destruction or diversion for permitted purposes of stocks of chemical weapons,
- destruction or dismantling of means of production of chemical weapons,
- temporary conversion of means of production of chemical weapons for the purpose of destroying stocks of such weapons;

(c) monitoring of compliance with the obligations in Element VI concerning super-toxic lethal chemicals for non-hostile military purposes;

(d) enquiry into facts, including where necessary on-site inspections, concerning alleged ambiguities in or violations of the compliance with the Convention.

3. National measures of verification would be carried out by a national verification system, organized, designated or employed by each State Party in accordance with its own legislation.

4. As regards international measures of verification a Consultative Committee of experts should be established in order to provide a permanent body for the monitoring of the implementation of and compliance with the provisions of this Convention on behalf of the international community by ensuring the availability of international data and expert advice to provide a basis for assessing such compliance.

II. Comment: as contained in document CD/220

1. Some delegations stressed the importance of confidence-building measures, which ought to be discussed in context with the verification issues, especially those related to declarations.

2. (Para. 1) Some delegations thought that international verification measures should form the basis for verification and that national measures could only be complementary to international measures.

3. (Para. 1) Some delegations considered that national verification measures should form the basis for verification and that international measures were only supplementary, even though necessary, means.
4. (Para. 2 (b)) Some delegations stated that the temporary conversion of means of production of chemical weapons was unacceptable.
5. (Para. 2 (d)) Some delegations suggested the deletion of the words "including where necessary on-site inspection".
6. (Para. 2 (d)) A delegation considered the term "ambiguities" as not sufficiently clear.
7. (Para. 3) Some delegations thought that it should be left to each State Party to decide whether any specific national organization was required for national verification.
8. (Para. 4) Some delegations suggested that the words "on behalf of the international community by ensuring the availability of international data and expert advice to provide a basis for assessing such compliance" be deleted, in order not to confuse the role of the Consultative Committee with regard to the verification of compliance as detailed in element XIII and annex V.
9. (Para. 4) Some delegations would prefer to see the words "international community" replaced by "States Parties".
10. (Para. 4) Some delegations felt that the Consultative Committee should also assess the collected data and that details for this activity should be given in Element XIII and Annex V. Other delegations thought however that the assessment should be made principally by each State Party individually.
11. (Para. 4) Some delegations suggested that the following words should replace the text after the words "be established": "to ensure the availability of international data and expert advice to provide a basis for assessing the implementation of and compliance with the provisions of this convention as described in Element XIII and annex V."
12. (Para. 4) Some delegations considered that the term "monitoring" was not sufficiently clear and that they therefore reserved their positions on this element.
13. Some delegations suggested the replacement of the word "monitoring" by the word "verification" throughout the element.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

- A delegation made the following proposal (CD/244, CD/CW/WP.26):

1. Each State Party to this Convention may use national means of verification at its disposal, including national technical means, for the purpose of monitoring the implementation of and continued compliance with the provisions of this Convention, in as far as it would be consistent with generally recognized principles of international law.

2. A Consultative Committee of Experts, as provided for in Element V, shall be responsible for monitoring the implementation of and continued compliance with the provisions of this Convention on behalf of the international community, and shall be authorized to conduct inspections, including on-site inspections, in order to fulfil its responsibilities.

3. Each State Party to this Convention undertakes not to impede, including through the use of deliberate concealment measures, either the national technical means of verification of other States Parties, operating in accordance with paragraph 1 of this element, or the work of the Consultative Committee of Experts.

- A delegation proposed the following text (CD/CW/CRP.35) as alternative wording for Element IX :

1. For the purpose of providing assurance of compliance with the provisions of this Convention, the States Parties should agree that verification would consist of national as well as international measures which should be considered as complementary to each other, as set forth in the following.

2. National verification within a State Party would be carried out through:

(a) monitoring of compliance with the obligations in Elements I-IV concerning prohibition of development, production, other acquisition, stockpiling, retention and transfer of chemical weapons;

(b) monitoring of compliance with the obligations in Elements I and V concerning

- destruction of stocks of chemical weapons,
- destruction or dismantling of means of production of chemical weapons,
- temporary conversion of means of production of chemical weapons for the purpose of destroying stocks of such weapons;

(c) monitoring of compliance with the obligations in Element VI concerning super-toxic lethal chemicals for non-hostile military purposes;

(d) enquiry into facts, including where necessary on-site inspections, concerning violations of compliance with the Convention.

3. National measures of verification within a State Party would be carried out by a national verification system, organized, designated or employed by each State Party in accordance with its own legislation.

4. As regards international measures of verification a Consultative Committee should be established in order to provide a permanent body for the monitoring of the implementation of and compliance with the provisions of this Convention on behalf of the international community. The Committee should be supported by experts to ensure the availability of international data and expert advice to provide a basis for assessing such compliance.

- A delegation proposed the following text (CD/CW/CRP.54) as replacement for Element IX, paragraph 3 :

3. Each State Party to this Convention will designate a National Implementation Agency that will oversee the implementation of the Convention and that will be responsible for the collection of all data relevant to the activities required by the provisions of this Convention, including the measures set forth in paragraph 2.

4. The National Implementation Agency of each State Party to this Convention will provide the Consultative Committee of Experts with all data necessary to the execution of the task of the Committee with respect to verification of compliance with the Convention. In case of inspections or on- or near-site visits by experts, organized by and under responsibility of the Consultative Committee according to the provisions of this Convention, the National Implementation Agency will extend all assistance requested, including technical assistance and the provision of data.

ELEMENT X: NATIONAL LEGISLATION AND VERIFICATION MEASURES

I. Text as contained in document CD/220

1. Each State Party to this Convention should undertake to take any measures it considers necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control, including a national verification system according to Element IX.
2. Recommendations and guidelines concerning the functions and organization of the national verification system would be set out in Annex IV.

II. Comments as contained in document CD/220

1. Some delegations queried the necessity of this element.
2. Some delegations suggested the deletion of the words "it considers necessary" in paragraph 1.
3. Some delegations suggested the deletion of the words "including ... to Element IX" at end of paragraph 1.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

A delegation proposed the following text (CD/CW/CRP.45) as alternative wording for Element X:

1. Each State Party to this Convention should undertake to take any measures it considers necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control.
2. These measures could include the establishment of a national verification organ, the functions, methods of work, and composition of which should be determined by the State Party concerned in accordance with its constitutional processes. Recommendations and guidelines concerning the functions and organization of the national verification organ would be set out in Annex IV.

ANNEX IV: RECOMMENDATIONS AND GUIDELINES CONCERNING THE FUNCTIONS AND ORGANIZATION OF THE NATIONAL VERIFICATION SYSTEM

I. Text as contained in document CE/220

(The contents of this annex remain to be elaborated.)

II. A. Comments as contained in document CE/220

Some delegations would prefer to see more emphasis put on the functions of such a system than on its organizational structure.

B. Comments made during first part of 1982 session

Comments made during the first part of the 1982 session will be circulated in CRP form for a first reading in the second part of the 1982 session.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

A delegation made the following proposal (CD/CW/CRP.42):

1. Each State Party may establish a national verification organ. The form and methods of work of this organ should be determined in accordance with the national legislation of the State Party concerned.

The national verification organ could consist of representatives of legislative and governmental bodies as well as of representatives of trade unions, scientific societies of chemists, national academies of sciences, other organizations depending on the conditions of the given State Party, and the press.

The staff of the organ could include specialists in chemical engineering, analysis, toxicology, economics, and in scientific and technical information.

The members of the organ as well as of its staff would not have the right to convey to third persons the information received as a result of visits to chemical industrial plants, but have only to make use of the data obtained for the purposes of verification of compliance with the obligations of the Convention.

The training of staff members of the national verification organ could be carried out according to a programme to be elaborated in close co-operation by the national verification organ and the Consultative Committee.

2. The national verification organ should have the following functions:

- (a) verification of compliance with the obligations of the Convention on the territory of the State Party or in any other place under its jurisdiction or control
 - not to develop, produce, otherwise acquire, stockpile, retain, or transfer chemical weapons;
 - not to assist, encourage or induce anyone to engage in activities from which the State Party itself would be obliged to refrain under the Convention;

- to destroy or divert to permitted purposes the stocks of chemical weapons;
- to destroy, dismantle or convert temporarily the means of production of such weapons.

(b) the national verification organ should also

- check the accumulated stockpiles of chemical weapons;
- verify the production and use of supertoxic lethal chemicals and their precursors as well as other lethal and harmful chemicals for permitted purposes;
- verify the implementation of the obligation on the non-stationing of chemical weapons and the withdrawal of stockpiles of such weapons;
- inquire into facts concerning alleged ambiguities in or violation of the compliance of the Convention.

(c) co-operation with the national verification organs of other States Parties, with the Consultative Committee and with corresponding international organizations concerning issues connected with the implementation of the Convention.

(d) participation in the further development of the methods and procedures of national verification.

3. In its activity the national verification organ may use

- laboratory, remote, indirect, conservative and other methods.

4. Each State Party to the Convention should take measures, it deems necessary, to create the juridical and material conditions allowing the national verification organ to effectively fulfil its functions. These measures should ensure the right of the national verification organ

- to get the relevant information from the corresponding executive organs, agencies and enterprises to investigate the actual state of affairs concerning compliance with the Convention;
- to examine reports on development activities as well as the productive and commercial activities of enterprises of the chemical industry and related fields, including productive-commercial documentations of the enterprises of industrial firms engaged in the manufacture of chemical and other products which could be related to the scope of the Convention;
- to visit enterprises producing supertoxic lethal chemicals, other lethal chemicals and harmful chemicals, precursors, which fall under the scope of the Convention;
- to visit enterprises being dismantled or already dismantled, or converted to the production of the above-mentioned chemicals for permitted purposes;
- to sample probes of waste gases, waste water and soil;
- to install in the above-mentioned enterprises sensing devices and make the necessary measurements;
- to get the financial means necessary for the implementation of its functions;
- to submit to the government concerned reports on its activities which could be publicized to inform public opinion.

ELEMENT XI: NATIONAL TECHNICAL MEANS OF VERIFICATION

I. Text as contained in document CD/220

1. Each State Party to this Convention should undertake to use national means of verification, including national technical means, at its disposal for the purpose of monitoring compliance with the provisions of this Convention only in as far as it is consistent with generally recognized principles of international law.
2. Each State Party to this Convention should undertake not to impede, including through the use of deliberate concealment measures, the national technical means of verification of other States Parties operating in accordance with paragraph 1 of this Element.

II. Comments as contained in document CD/220

1. Some delegations proposed the insertion of the words "as appropriate and in accordance with paragraph 1 of Element IX" between the words "Convention" and "should undertake" in paragraph 1.
2. Some delegations stated that they could agree to this element only after it had been made clear to what extent States Parties should undertake to disseminate to other States Parties information obtained through national technical means of verification.
3. A delegation considered that the term "deliberate concealment measures" should be further elaborated and clarified.

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

- A delegation proposed the following text (CD/CW/CRP.36) as alternative wording for Element XI:

1. Each State Party to this Convention may use national means of verification, including national technical means, at its disposal for the purpose of monitoring compliance by other States with the provisions of this Convention. Such monitoring should only be carried out in accordance with generally recognized principles of international law.
2. Each State Party to this Convention should undertake not to impede, including through the use of deliberate concealment measures, the national technical means of verification of other States Parties operating in accordance with paragraph 1 of this Element.
3. Any information so obtained should be confidential to the State Party which carried out monitoring, unless or until evidence was sufficient to suggest non-compliance by another State Party. In this case the Consultative Committee should be informed.

- A delegation proposed the following text (CT/CW/CRP.43) as alternative wording for Element XI:

1. For the purpose of providing assurance of compliance with provisions of this Convention, each State Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.
2. Verification pursuant to paragraph 1 of this article may be undertaken by any State Party using its own national technical means of verification, or with the full or partial assistance of any other State Party.
3. Each State Party to this Convention should undertake not to interfere with the national technical means of verification of other Parties operating in accordance with paragraphs 1 and 2 of this article.
4. Each Party should undertake not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Convention.

- A delegation proposed the following text (CT/CW/CRP.54) as rephrasing for paragraph 1 of Element XI:

1. Each State Party to this Convention may use national technical means of verification at its disposal for the purpose of monitoring compliance with the provisions of this Convention in a manner consistent with generally recognized principles of international law.

ELEMENT XII: CONSULTATION AND CO-OPERATION

I. Text as contained in document CD/220

1. The States Parties to this Convention should undertake to consult one another and to co-operate, especially through the Consultative Committee, referred to in Element IX, in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of, the Convention.
2. Any State Party to this Convention, which has reason to believe that any other State Party is acting in breach of its obligation under this Convention should have the right to request information either bilaterally or through the Consultative Committee in order to clarify the situation. Such a request should be accompanied by appropriate explanations of the reasons for concern.
3. Consultation and co-operation pursuant to this Element could also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. These international procedures could include the services of appropriate international organizations, in addition to those of the Consultative Committee.

II. Comments as contained in document CD/220

1. Some delegations considered that the complaints mechanism which is dealt with in this Element as well as in Element XIII should be structured more clearly.
2. A delegation felt that the words "in solving any problems" in paragraph 1 were too vague and required further elaboration.
3. Another delegation considered that it was essential to make it clear to what extent the bilateral consultative process referred to in this Element implied obligations to make information available to other States Parties.
4. Some delegations felt that the word "appropriate" before "explanations" in paragraph 2 was not sufficiently precise and should be either further elaborated or deleted.
5. Some delegations thought that the procedures, referred to in paragraph 3, should include a specific reference to the General Assembly and the Security Council. Opinions differed however on whether both or just one or the other should be referred to.

III. Concrete alternative wording proposed

A. With respect to the above Comments
with respect to Comment No. 1

- A delegation, in making the following proposal (CD/244, CD/CW/WP.26), stated it believed that the complaints mechanism would be better dealt with in a separate element:

The States Parties to this Convention undertake to consult one another and to co-operate in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of, the Convention. Consultation and co-operation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. These international procedures include the services of appropriate international organizations, as well as a Consultative Committee of Experts, as provided for in Element V.*

Complaints Procedure

1. Any State Party to this Convention which believes that any other State Party is acting in breach of the obligations deriving from the provisions of the Convention, and is not satisfied with the results of the consultations provided for under Element III, may lodge a complaint with the Consultative Committee of Experts, as provided for in Element V. Such a complaint should where possible include any supporting evidence as well as a request for its consideration by the Committee. Such a request may include a request for an on-site inspection, as set out in Annex II sub-paragraph 4.
2. Each State Party to this Convention undertakes to co-operate in carrying out any investigation which the Consultative Committee may initiate, in accordance with its procedures as set out in Annex II on the basis of the complaint received by the Committee. The Committee should inform States Parties to the Convention of the results of the investigation.
3. If a State Party receiving a request for on-site inspection from the Committee states that it is not prepared to allow an on-site inspection, it shall substantiate its decision. If the Committee still considers that an on-site inspection is warranted it may request additional information or a reconsideration of the decision in the light of additional relevant information that either party has provided. If the Requesting Party or the Committee remains unsatisfied with the substantiation for the decision it may bring the matter to the Security Council of the United Nations.

B. Without specific reference to Comments

- A delegation made the following proposal (CD/CW/CRP.46) as alternative wording for Element XII:

1. The States Parties to this Convention should undertake to consult one another and to co-operate in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of, the Convention.

*/ Element V in CD/244, CD/CW/WP.26 contains a proposal for a Consultative Committee (see page 41 of this compilation).

2. Consultation and co-operation pursuant to this Element may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charters. These international procedures may include the services of appropriate international organizations, as well as of a Consultative Committee, as provided for in Element XIII.

- A delegation, in proposing the following text (CD/CW/CRP.54) as replacement for Element XII, stated it believed that the complaints procedure would be better dealt with in a separate element (see proposed Element XIII bis):

1. The States Parties to this Convention undertake to consult one another and to co-operate in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of the Convention.
2. Consultation and co-operation pursuant to this article may be undertaken directly between two or more States Parties to this Convention and through appropriate international procedures within the framework of the United Nations and in accordance with the Charter. These international procedures include the services of appropriate international organizations, as well as of a Consultative Committee of Experts as provided for in paragraph 3 of this Element.
3. For the purpose of providing a permanent body for consultation and co-operation pursuant to paragraph 1 of this Element and to ensure the availability of international data and expert advice for assessing and verifying compliance with the provisions of this Convention in accordance with the provisions of this Convention a Consultative Committee of Experts shall be established at the entry into force of this Convention for the duration of the Convention. Each State Party to the Convention may appoint .. representative to this Committee, who could be assisted by one or more advisers.
4. The depositary or his personal representative shall serve as president of the Committee and convene it at least once a year, or otherwise immediately upon receipt of a request from any depositary to this Convention.
5. Each State Party to this Convention undertakes to co-operate with the Committee in carrying out its tasks, including through its National Implementation Agency specified in Element V, paragraph 3. Each representative shall have the right through the Chairman, to request from States Parties and from international organizations, such information and assistance as the representative considers desirable for the accomplishment of the Committee's work.
6. The functions, organization and procedures of the Committee are set forth in annex ...

ELEMENT XIII: CONSULTATIVE COMMITTEE

I. Text as contained in document CD/220

1. The Consultative Committee, referred to in Elements II and XII, should be established at the entry into force of this Convention. Each State Party to this Convention could appoint one representative to the Committee. The representative could be assisted by one or more advisers. The Depositary or his personal representative should serve as President of the Committee and convene it at least once a year, or immediately upon receipt of a request from any State Party.

2. Each State Party to this Convention should undertake to co-operate fully with the Committee in carrying out its tasks. Each representative should have the right, through the Chairman, to request from States Parties, and from international organizations, such information and assistance as the representative considers desirable for the accomplishment of the Committee's work.

3. The Consultative Committee should:

(a) monitor the destruction and diversion for permitted purposes of stocks of chemical weapons, as well as the destruction, dismantling and temporary conversion of means of production of chemical weapons as stipulated in Element V;

(b) monitor permitted production of super-toxic lethal chemicals in accordance with Element VI;

(c) make appropriate findings of facts and provide expert views relevant to problems raised pursuant to the provisions of the Convention by a State Party, in particular concerning alleged ambiguities in, or violations of the compliance with the Convention at the request of a State Party;

(d) facilitate compliance with the Convention, e.g. by developing international standardization of methods and routines to be applied by national and international verification organs;

(e) receive and distribute data relevant to the provisions of this Convention, which may be made available by national verification systems;

(f) otherwise closely co-operate with national verification systems and provide them with necessary assistance.

4. The Committee should, after consultation with the State Party concerned, be competent to undertake on-site inspections:

(a) in order to confirm received information concerning planned, on-going or effected measures according to subparagraph 3 (a) of this Element;

(b) in order to carry out monitoring according to subparagraph 3 (b) of this Element.

5. Any State Party which has reason to believe that any other State Party is acting in breach of its obligations deriving from the provisions of this Convention would have the right to request an investigation by the Committee of the circumstances which have given rise to concern. Such a request could include a request for an on-site inspection to determine in accordance with subparagraph 3 (c) of this Element, the facts of the situation and should be accompanied by an appropriate explanation of why an investigation is considered necessary. On-site inspection should take place only after consultation with the State Party concerned. If that State Party does not agree to on-site inspection, it should give appropriate explanations to the effect that an on-site inspection would at that time jeopardize its supreme national interests. The requesting Party could in this case pursue the complaint within the framework of the United Nations in accordance with Element XII, paragraph 3.

6. The work of the Committee should be organized in such a way as to permit it to perform its functions in an effective fair and impartial manner. It could for specific tasks set up sub-committees and verification teams. The Committee should decide procedural questions relative to the organization of its work, where possible, by consensus, but otherwise by a majority of those present and voting. There should be no voting on matters of substance. If the Committee is unable to provide for a unanimous report on findings of fact or in giving expert views, it should present the different views of the experts involved.

7. The Committee should present an annual report of all its activities to the States Parties to the Convention. The Committee should further, whenever it has been requested by a State Party to carry out fact-finding or provide expert views concerning a specific question, transmit to the Depositary a summary of its findings or expert views incorporating all views and information presented to the Committee during its proceedings. The Depositary should distribute the summary to all States Parties.

8. The Committee should at all stages consider the possibility of a bilateral solution to any dispute and be prepared to assist therein. Nothing should impede the right of a State Party to request information from the State Party concerned as regards presumed treaty violations.

9. Details of the organization and procedures of the Committee, rights and duties of members, rights and duties of designated personnel for inspection, inspection procedures and rules for reports would be set out in Annex V.

II. Comments as contained in document CD/220

1. Some delegations felt that this element had to be further elaborated. They emphasized that agreement on verification procedures could promote a convergence of views on the scope of the convention. Other delegations noted that the functions of the Consultative Committee as well as other international verification measures can and should be considered and elaborated only with due regard to, and in inextricable interrelationship with the scope and the nature of the prohibition under a future convention. Therefore they had refrained so far from stating their views in detail on the tasks and terms of reference of the Consultative Committee.
2. (Para. 1) Some delegations considered that the efficiency of the Consultative Committee would diminish if it were to include a representative of each State Party. It was therefore suggested that the Committee should consist of a limited number of members elected from experts nominated by States Parties. The Chairman sharing this concern drew the attention to the 1961 Single Convention on Narcotic Drugs as a possible model.
3. (Para. 3) Some delegations considered that the competence of the Consultative Committee should include enquiry into facts concerning allegations of use of chemical weapons by or with the assistance of a State Party on the grounds that evidence of use would indicate a breach of the obligations assumed not to develop, acquire, transfer, stockpile or retain chemical weapons.
4. (Para. 3) Some delegations suggested that verification of the non-production of chemicals for prohibited purposes should be based on a pragmatic on-site inspection system. They believed that this could be undertaken without prejudice to the interest of the chemical industry. Some delegations felt that such inspections should be undertaken periodically on the basis of random selection so as to take place in a businesslike and co-operative atmosphere. Others asserted that there was no evidence that on-site inspection of chemical industry was feasible without harming economic interests.
5. (Para. 3) Some delegations emphasized that the tasks in (a) and (b) do not only belong to the Consultative Committee but also to the national verification systems.
6. (Para. 3) Some delegations stated that they did not see any necessity for an obligation to set up specific national verification organs.
7. (Para. 3) A delegation proposed that there should be specific provisions in the functions of the Consultative Committee for technical assistance in protection measures on request to States Parties.
8. (Para. 3) Some delegations suggested that procedures for the verification of allegations of use, which is forbidden by the 1925 Geneva Protocol, could also be elaborated outside the framework of the envisaged convention on chemical weapons.

9. (Para. 4) Some delegations felt that on-site inspections as a means to confirm information received from States Parties could contribute to the fostering of distrust among nations and could therefore not be accepted. They also felt that these provisions had not been sufficiently discussed.
10. (Para. 5) Some delegations felt that only the first sentence was acceptable.
(Para. 5) Some delegations suggested that the words "of the circumstances which have given rise to concern" were not sufficiently precise and should therefore be deleted.
11. (Para. 5) Some delegations considered that even if it was within the right of each State Party to request on-site inspection, this should not be specifically mentioned. They considered that the Consultative Committee should decide to undertake an on-site inspection only if it could not obtain the necessary information to investigate the complaint by other means.
12. (Para. 5) Some delegations suggested that there should be a provision in this element to enable a State Party to request on-site inspection within its own territory.
13. (Para. 5) Some delegations suggested the inclusion of a provision to the effect that the Consultative Committee should consider and undertake action to establish the facts of the case, which may include requests for information and if necessary a proposal for on-site inspection.
14. (Para. 5) Some delegations considered that the existing fourth sentence should stop after the words "appropriate explanations".
15. (Para. 5) Some delegations thought that the entire complaints mechanism should be dealt with in a separate element.

III. Concrete alternative wording proposed

A. With respect to the above Comments with respect to Comment No. 1

A delegation, in making the following proposal (CD/244, CD/CW/WP.26), stated that it had divided the provision for the establishment of the Consultative Committee from the description of its functions:

1. For the purpose of providing a permanent body to ensure the availability of international data and expert advice for assessing the implementation of and continue compliance with the provisions of this Convention a Consultative Committee of Experts shall be established at the entry into force of this Convention.
2. Each State Party to this Convention undertakes to co-operate with the Committee in carrying out its tasks.

3. The work of the Committee shall be organized in such a way as to permit it to perform the functions set forth in Annex II in an effective, fair and impartial manner.

4. The functions, organization and procedures of the Committee are set forth in Annex II. (See Annex II below.)

Consultative Committee of Experts

1. The Consultative Committee of Experts shall be composed of the Depositary or his personal representative, who shall serve as President of the Committee, and representatives of the States Parties. Each State Party to this Convention may appoint one representative to the Committee who may be assisted by one or more advisers.

2. The Consultative Committee of Experts shall be competent to:

(a) check the content of declarations made by States Parties [in compliance with Element on "Declarations" to be agreed]

(b) oversee the destruction and diversion for permitted purposes of stocks of chemical weapons, as well as the destruction, dismantling and temporary conversion of means of production of chemical weapons [as stipulated in Element I]

(c) inquire into facts concerning alleged ambiguities in or violations of the compliance with the Convention;

(d) check periodically permitted production of chemicals with respect to amounts produced and their use;

(e) facilitate compliance with the Convention, e.g. by developing international standardization of methods and routines to be applied by national and international verification organs;

(f) make appropriate findings of fact and provide expert views relevant to other problems raised pursuant to the provisions of the Convention by a State Party

3. Each representative shall have the right, through the Chairman, to request from States Parties, and from international organizations, such information and assistance as the representative considers desirable for the accomplishment of the Committee's work.

4. The Committee shall be allowed to undertake on-site inspections:

(a) in order to conform received information concerning planned, on-going or effected measures according to subparagraphs 2 (a) and (b) of this Annex;

(b) in order to inquire into facts concerning alleged ambiguities or violations according to subparagraph 2 (c) of this Annex;

(c) in order to carry out checks according to subparagraph 2 (d) of this Annex.

5. The Committee shall decide procedural questions relative to the organization of its work, where possible by consensus, but otherwise by a majority of those present, and voting. There shall be no voting on matters of substance. If the Committee is unable to provide for a unanimous report on these findings of fact or in giving expert views, it shall present the different views of the experts involved.

6. The full Committee shall convene at least once a year, or otherwise immediately upon receipt of a request from any State Party to this Convention. The Committee shall present an annual report of its activities to the States Parties to the Convention. The Committee shall further, whenever it has been requested by a State Party to carry out fact-finding or provide expert views concerning a specific question, transmit to the Depositary a summary of its findings or expert views, incorporating all views and information presented to the Committee during its proceedings. The Depositary shall distribute the summary to all States Parties.

7. The Committee may, for specific tasks, set up sub-committees and verification teams which may continue their work between meetings of the full Committee. The Committee, and all bodies established by it, shall be provided with, or have access to special facilities, such as secretariat technical experts, chemical and toxicological laboratories and remote sensing equipment. The expenses of the Committee will be borne by the United Nations and the States Parties in such manner as will be decided by the General Assembly in consultation with the States Parties.

A delegation proposed the following text (CD/CW/CRP.54) as alternative wording for Element XIII which should be entitled "Verification tasks of the Consultative Committee of Experts".

The delegation also proposed wording for a separate element to be inserted after Element XIII in document CD/220

(Element XIII bis):

Element XIII: Verification tasks of the Consultative Committee of Experts

1. Destruction and Diversion of Stocks

(a) The Consultative Committee of Experts shall permanently oversee the destruction and diversion for permitted purposes of declared stocks of chemical weapons as stipulated in Element .. of this Convention.

(b) The Consultative Committee shall undertake on-site inspections, if it so deems necessary on a permanent basis, in order to confirm, in conformity with its task specified in subparagraph (a) above, received information that the destruction and diversion for permitted purposes of declared stocks of chemical weapons as stipulated in Element .. of this Convention is effectuated in accordance with this Convention.

2. Destruction, Dismantling and Conversion of Means of Production

(a) The Consultative Committee of Experts shall oversee the destruction, dismantling and temporary conversion of declared means of production of chemical weapons as stipulated in Element .. of this Convention.

(b) The Consultative Committee shall undertake on-site inspections at the beginning as well as upon completion of the destruction, dismantling and temporary conversion of declared means of production of chemical weapons as stipulated in Element .. of this Convention, in order to confirm, in conformity with its task specified in subparagraph (a) above, received information that these activities are effectuated in accordance with this Convention.

3. Production of Supertoxic Lethal Chemicals

(a) The Consultative Committee shall check periodically whether the declared production of supertoxic lethal chemicals for permitted purposes does not exceed the quantity specified in ...

(b) The Consultative Committee shall randomly inspect on-site in order to confirm, in conformity with its task specified in subparagraph (a) above, that the declared production of supertoxic lethal chemicals for permitted purposes does not exceed the quantity specified in ...

4. Confidence with respect to compliance

(a) The Consultative Committee shall in any possible way endeavour to create confidence that the production of supertoxic lethal chemicals for permitted purpose does not exceed the quantity specified in ... and that production of chemicals for non-permitted purposes does not take place.

(b) The Consultative Committee shall undertake on-site inspection on a random basis at facilities and on the territory of States Parties that will at regular intervals be assigned by lot according to the procedure set forth in annex ..., with a view to enhance confidence, in conformity with subparagraph (a) above, that the production of supertoxic lethal chemicals for permitted purposes does not exceed the quantity specified in ... and that production of chemicals for non-permitted purposes does not take place.

5. Alleged ambiguities and violations

(a) Any State Party which has reason to believe that any other State Party has acted in breach of its obligations deriving from the provisions of this Convention shall have the right to request an investigation. For the purpose of such an investigation, the Consultative Committee shall be competent to enquire into facts concerning the alleged ambiguities in or violations of the compliance with the Convention, including reports or indications the confirmation of which would corroborate the conclusion that a State Party would have violated any

(c) make, at the request of any State Party, or the Security Council, an enquiry into facts concerning reports or indications of use of chemical weapons by or with the assistance of a State Party to this Convention. This competence includes enquiry into facts concerning reports or indications of use of chemical weapons by or with the assistance of a State Party to this Convention.

(b) The Consultative Committee shall be competent to undertake on-site inspections in order to enquire into facts concerning alleged ambiguities or violations according to subparagraph (a) above. Such on-site inspection shall take place only after consultation with the State Party concerned. If that State Party does not agree to on-site inspection, it must give appropriate explanations to the effect that an on-site inspection would at that time jeopardize its supreme interests. In such case the Consultative Committee shall examine the validity of these explanations.

NEW ELEMENT (XIII Bis)

Complaints procedure

1. Any State Party to this Convention which has reason to believe that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all relevant information as well as all possible evidence supporting its validity.
2. Each State Party to this Convention undertakes to co-operate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Council. The Security Council shall inform the States Parties of the results of the investigation.
3. Each State Party to this Convention undertakes to provide or support assistance, in accordance with the provisions of the Charter of the United Nations, to any State Party which so requests, if the Security Council decides that such Party has been harmed or is likely to be harmed as a result of violation of the Convention.

with respect to Comments Nos. 2 to 15

None

B. Without specific reference to Comments

- A delegation proposed in CD/CW/CRP.46 alternative wording for Element XIII, as well as a separate element to be inserted after Element XIII as Element XIII Bis:

Element XIII

1. The Consultative Committee, referred to in Element IX and XII, should be established within 30 days after the Convention has entered into force. Any State Party may appoint one representative to the Committee. The Committee could be convened by the Depositary of the Convention, if necessary, or at a request of a State Party within 30 days upon receipt of such a request. The Committee should be supported by a Secretariat provided with the necessary technical powers.

Details concerning the organization and procedures of the Consultative Committee, rights and duties of its members and its staff as well as the location and technical facilities of the secretariat would be set out in Annex V.

2. The Consultative Committee should

- (a) receive, stockpile, distribute and analyse data, which should be made available by States Parties to the Convention;
- (b) provide assistance to States Parties with regard to the consultation and co-operation, as provided for in Element XII;

(c) make, at the request of any State Party, or the Security Council of the United Nations, appropriate findings of fact in case of suspicions concerning the violation of the Convention by another State Party, and may request appropriate information from this Party;

(d) send its representatives to participate in the carrying out of on-site inspections, as provided for in paragraph 4;

(e) co-operate with national verification organs and provide them with necessary assistance.

3. Any State Party which has reason to believe that any other State Party is acting in breach of its obligations deriving from the provisions of this Convention would have the right, on a bilateral basis or through the Consultative Committee, to request from this other State Party relevant information on the actual state of affairs. Such a request should include an appropriate explanation of why the information is considered necessary.

The State Party to whom the request was directed could provide the requesting State Party with the appropriate information, or decide otherwise.

4. Any State Party may, on a bilateral basis or through the Consultative Committee, direct a request for an on-site inspection to another State Party with respect to which suspicions have arisen that it is acting in violation of obligations of the Convention. Such a request should include all relevant information as well as all possible evidence supporting its validity.

The State Party to whom the request was directed may agree to such an inspection on its territory or at any other place under its jurisdiction or control, or decide otherwise. It should inform the requesting State Party on its decision, and if it does not agree to on-site inspection, it should give appropriate explanations.

Procedures for on-site inspection, including provisions regarding the rights and functions of the inspection personnel as well as of the host side would be set out in Annex VI.

XIII bis
Security Council

1. Any State Party to the Convention which has reason to believe that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all relevant information as well as all possible evidence supporting its validity.

2. Each State Party to the Convention should undertake to co-operate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Council.

3. Each State Party to the Convention should undertake to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests, if the Security Council decides that such Party has been exposed to danger as a result of violation of the Convention.

ANNEX V: CONSULTATIVE COMMITTEE

I. Text as contained in document CD/220

(The contents of this annex remain to be elaborated.)

II. Comments as contained in document CD/220

None

III. Proposals with respect to Annex V

None

ELEMENT XIV: AMENDMENTS

I. Text as contained in document CD/220

Any State Party could propose amendments to this Convention. Amendments should enter into force for each State Party accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party on the date of acceptance by it.

II. Comments as contained in document CD/220

None

III. Concrete alternative wording proposed

A delegation made the following proposal (CD/CW/CRP.51) as alternative wording for Element XIV:

Any State Party may propose amendments to this Convention. Each proposed amendment shall be submitted to the depositary, which shall promptly transmit it to all other States Parties and which shall inform the Committee on Disarmament. An amendment shall enter into force for each State Party accepting the amendment after the deposit with the Depositary of documents of acceptance by a majority of the States Parties and thereafter for each remaining State Party on the date of acceptance by it.

ELEMENT XV: REVIEW CONFERENCE

I. Text as contained in document CD/220

1. Five years after the entry into force of this Convention, or earlier if it is requested by a majority of Parties to the Convention by submitting a proposal to this effect to the Depositary, a conference of States Parties to the Convention should be held at Geneva, Switzerland, to review the operation of the Convention, with a view to assuring that the purposes of the Convention are being realized. Such review should take into account any new scientific and technological developments relevant to the Convention. Proposed amendments to the Convention could also be considered at the conference.
2. Further review conferences should be held at intervals of five years thereafter, and at other times if requested by a majority of the States Parties to this Convention.

II. Comments as contained in document CD/220

1. Some delegations considered it premature to suggest time-frames for meetings of review conferences.
2. A delegation suggested that the last sentence in paragraph 1 should be put in Element XIV

III. Concrete alternative wording proposed

A. With respect to the above Comments

None

B. Without specific reference to Comments

A delegation made the following proposal (CD/CW/CRP.51) with respect to amendments in paragraph 1 of Element XV:

Add after "to review the" in the fourth line of CD/220, page 31, English version, the words "scope and the" before "operation".

Add after "being realized" in the sixth line of CD/220, page 31, English version, the following sentence: "States not Parties to the Convention shall be invited as observers to the Conference".

Add after the last sentence of paragraph 1, CD/220, page 31, English version, the following sentence: "The Conference may agree upon amendments which shall enter into force in accordance with element XIV."

ELEMENT XVI: DURATION AND WITHDRAWALS

I. Text as contained in document CD/220

1. This Convention should be of unlimited duration.
2. Each State Party to this Convention should 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 its supreme interests. It should give notice of such withdrawal to the Depositary three months in advance. Such notice should include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

II. Comments as contained in document CD/220

1. Some delegations suggested that States Parties should be required to give notice of withdrawal not only to the Depositary but also to the Security Council on the grounds that extraordinary events which jeopardize their supreme interests have to be invoked for such withdrawal.
2. A delegation suggested the deletion of the reference to "extraordinary events" as a corresponding rephrasing of the element.

III. Concrete alternative wording proposed

A. With respect to the above Comments

B. with respect to Comment No. 1

A delegation made the following proposal (CD/CW/CRP.49) for text to be added at the end of the existing Element XVI:

The Depositary on its part should immediately inform the Security Council of the United Nations of the submission of a notice of withdrawal from a State Party to the Convention.

A. with respect to Comment No. 2

None

B. Without specific reference to Comments

None

ELEMENT XVII: SIGNATURE, RATIFICATION, ACCESSION

I. Text as contained in document CD/220

1. This Convention should be open to all States for signature. Any State which does not sign the Convention before its entry into force in accordance with paragraph 3 of this Element could acceded to it at any time.
2. This Convention should be subject to ratification by signatory States. Instruments of ratification or accession should be deposited with the Secretary-General of the United Nations.
3. This Convention should enter into force upon the deposit of instruments of ratification by twenty Governments, in accordance with paragraph 2 of this Element.
4. For those States whose instruments of ratification or accession are deposited after the entry into force of this Convention, it should enter into force on the date of the deposit of their instruments of ratification or accession.
5. The Depositary should promptly inform all signatory States and States Parties the date of each signature, the date of deposit of each instrument of ratification or accession and the date of the entry into force of this Convention and of any amendments thereto, as well as of the receipt of other notices.
6. This Convention should be registered by the Depositary in accordance with Article 102 of the Charter of the United Nations.
7. Annexes I to V should be considered an integral part of this Convention.

II. Comments as contained in document CD/220

Some delegations considered that the Convention should enter into force only upon deposit of instruments of ratification by a specific number of States including those of the permanent members of the Security Council. Other delegations objected to this on the grounds that State Parties should not be treated in a different manner.

III. Concrete alternative wording proposed

A. With respect to the above Comment

A delegation made the following proposal (CD/CW/CRP.48) as alternative wording for Element XVII, paragraph 3:

This Convention shall enter into force upon the deposit of instruments of ratification by Governments, including the Governments of the States permanent members of the United Nations Security Council.

B. Without specific reference to Comments

None

ELEMENT XVIII: DISTRIBUTION OF THE CONVENTION

I. Text as contained in document CD/220

This Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, should be deposited with the Secretary-General of the United Nations, who should send duly certified copies thereof to the Governments of States members of the United Nations and its Specialized Agencies.

II. Comments as contained in document CD/220

None

III. Proposals with respect to Element XVIII

None

23 July 1982

Original: ENGLISH

COMMITTEE ON DISARMAMENT

Working Group on Chemical Weapons

Compilation of revised Elements and Comments thereto (CD/220),
proposed new texts and alternative wordings as well as
comments on new texts

Corrigendum

1. Page 7, under subsection B entitled "Without specific reference to Comments", delete the word "none" and replace with the following text: "One delegation proposed an additional sentence to be added to Element I (CD/CW/CRP.29):

', and, not later than ten years after the entry into force of this Convention, to take effective measures to stop, or never to start, planning, organization and training intended to enable the utilization of toxic properties of chemicals as weapon in combat.'"

2. Page 16, after the last paragraph add the following text:

"One delegation proposed an addendum to Element IV (CD/CW/CRP.29):

'3. Not later than ten years after the entry into force of this Convention each State Party should:

(a) issue an open general order to the effect that planning, organization and training intended to enable the utilization of toxic properties of chemicals as weapon in combat should not take place;

(b) ascertain that all organization charts, plans, manuals etc. containing provisions intended to enable the utilization of toxic properties of chemicals as weapon in combat, are withdrawn or revised;

(c) declare the composition of equipment intended to protect against chemical weapons;

according to the provisions given in Annex II.'"

3. Page 27, under subsection F entitled "Without specific reference to Comments" the following text should be inserted:

"A delegation made the following proposal for an additional sentence to be added to Element IX 2 (a) (CD/CW/CRP.29):

', as well as, not later than ten years after the entry into force of this Convention measures not to plan, organize and train activities with the intention of enabling the utilization of toxic properties of chemicals as weapon in combat.'"

4. Page 49, under section III entitled "Proposals with respect to Annex V", delete the word "none" and replace by the following text:

"A delegation suggested the following text for content of a future Annex V relating to Element XIII:3 (e) (CD/CW/CRP.29):

'Annex V should contain provisions for measures to be taken by the Consultative Committee with respect to planning, organization and training as expressed in Elements I, IV and IX. The Consultative Committee could obtain information on e.g.

- (a) general orders, organization charts, manuals and regulations;
- (b) invitations to and reports from military manoeuvres and former testing and training facilities for chemical weapons;
- (c) organizational and technical aspects related to the protection against chemical weapons.

The Consultative Committee could also receive samples of protective equipment for distribution among Parties.'"

Page 25, under the heading "The following are the names of the persons who have been appointed to the various positions in the office of the Secretary of the State, and whose names are hereunto set forth in accordance with the provisions of the Act in that behalf made."

Secretary of State: [Name]

Under Secretary of State: [Name]

Assistant Secretary of State: [Name]

Chief Clerk: [Name]

Deputy Chief Clerk: [Name]

Assistant Clerks: [Name]

11

CD/CW/WP.34
16 April 1982

Original: ENGLISH

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

The following statement was made by the Chairman of the Working Group on Chemical Weapons at the closing of the first part of its 1982 session. Since the Chairman considers this statement to reflect his perception of how the Group's work may be continued during the second half of the 1982 session, in accordance with the general wish expressed in the Group he felt that it would assist delegations if it were circulated as a working paper.

GE.82-62204

The Chairman's closing statement

The discussions on chemical weapons during the first part of the 1982 session of the Committee on Disarmament, both in the plenary meetings and in this Working Group, have abounded with substantial interventions, specific new formulations of elements, numerous amendments and comments. The Chairman wishes to express his gratitude to all those - very numerous - distinguished delegates who have contributed in this very way to the work of the ad hoc Working Group on Chemical Weapons.

Trying to sum up the activities of this ad hoc Working Group during the part of the CD session which we terminate today, here are some reflections which may contain an answer to questions asked recently by many delegations.

Firstly, as a result of last year's work, the Group had at its disposal the elements accompanied by rather numerous comments reflecting the different, if not divergent, views of delegations on the said elements. We had a choice of at least two possible working methods: one, to elaborate compromise texts of elements of a convention on the basis of elements and comments contained in CD/220 and the present position of delegations, and two, to allow the delegations who made comments last year to specify them during this session as alternative elements. As you know, the latter approach was proposed, assuming that the former one would mean de facto omitting an important stage in the negotiating process. On the contrary, the second approach seemed to fit in as a logical "next step" in this negotiation process and - in the personal view of the Chairman, appeared to be a very suitable one.

Secondly, in the method of work the Group followed during the last two months or so, we were to elaborate alternative formulations or alternative elements which, in principle, should consume the texts of comments. What is meant is translation of the positions of delegations expressed at present in the form of - more or less - general comments into the language of alternative and additional elements. In other words, after the stage which we called "determination of issues to be dealt with in the negotiation" and then after last year's work which was marked by elaboration of elements, we came to the stage of elaboration of alternative and additional elements. During this session, there have been formulated quite many such elements, although the number of comments has not diminished. Moreover, we have tried to fill some blank spaces, e.g. a draft preamble and some appendices were suggested which, due to lack of time, were not presented last year. Furthermore, the Group tried another, however controversial, task: the restructuring of the shape of the future convention. The documents

which have been submitted and the course of discussion, both in the plenary and in the Working Group, on a new generation of chemical weapons i.e. binary weapons have shown that, in the Committee and in the Group there exists a full awareness of the consequences which the production of some of these weapons may entail to the negotiation process in this Group. This process will undoubtedly be facilitated if we all fully realize that such consequences must be taken into account.

Thirdly, during the first part of the 1982 session, the delegations have contributed to important discussions on both the scope of prohibition and the verification. Some doubts and, perhaps, misunderstandings have been explained. Some material which may be used to the Group's advantage has been compiled in the document CD/CW/WP.33. Have we fully exploited all the possibilities and the time we had at our disposal? I think we have kept an intensive pace of work. Altogether, we have held during this session 14 formal and at least 6 informal meetings of the Group. I have not counted the number of Chairman's informal consultations on different subjects. Could we have done more? I suppose nothing ever is done so well that it could not have been done better. We have not wasted our time, it is true, but with a more flexible approach of very many delegations right from the first meeting of the Working Group, we could have, indeed, translated more comments into alternative elements. In this situation, I appeal to all the delegations to take advantage of the recess to seriously try to do this exercise so that from the very first meeting during the summer session we can smoothly continue our work. To this end, the delegations will have at their disposal a compilation of draft elements and proposed new texts and alternative wordings I have just referred to which can provide an appropriate background paper to the kind of homework I appeal for.

Thus, answering the questions I have been asked recently during the summer session we should continue the elaboration of alternative elements which constitutes, let's say, the third stage of our work and, if possible, we should come to the next stage which I would call the stage of elaborating compromise elements. Good preconditions for that work could be provided by a solid set of original and alternative elements. In approaching that stage in the summer session, I plan to establish several contact groups which will be charged with the elaboration of compromise elements in any given sphere of the convention, for example, the scope of prohibition, declarations of stocks, verification, national means of verification, national technical means, etc. In any case, only after that work has been finished, we shall have grounds to come to the final stage, that is, to the translation of the elements into the treaty language. Having in mind,

that in quite many interventions in the plenary meetings, also this year, the delegations appealed for acceleration of work on the future convention, I wish to express my conviction that the process of negotiation will be accelerated only when the delegations show themselves more active not only in general discussions but also in the specific negotiation process which, let me emphasize, implies preparedness to work out concrete proposals. Needless to say, we must be guided by a sense of compromise.

I should like to express our thanks and recognition to the experts in toxicology who managed to work out and recommend standardized methods on toxicity determinations. Their recommendations for the Group in this respect are considered as an important contribution in the work on the future convention. I do hope that the future consultations we plan to be held during the summer session will be equally fruitful and productive.

USSR

CD/CW/WP.35

Basic Provisions of a
Convention on the
Development, Production,
and Stockpiling of
Chemical Weapons and on
Their Destruction

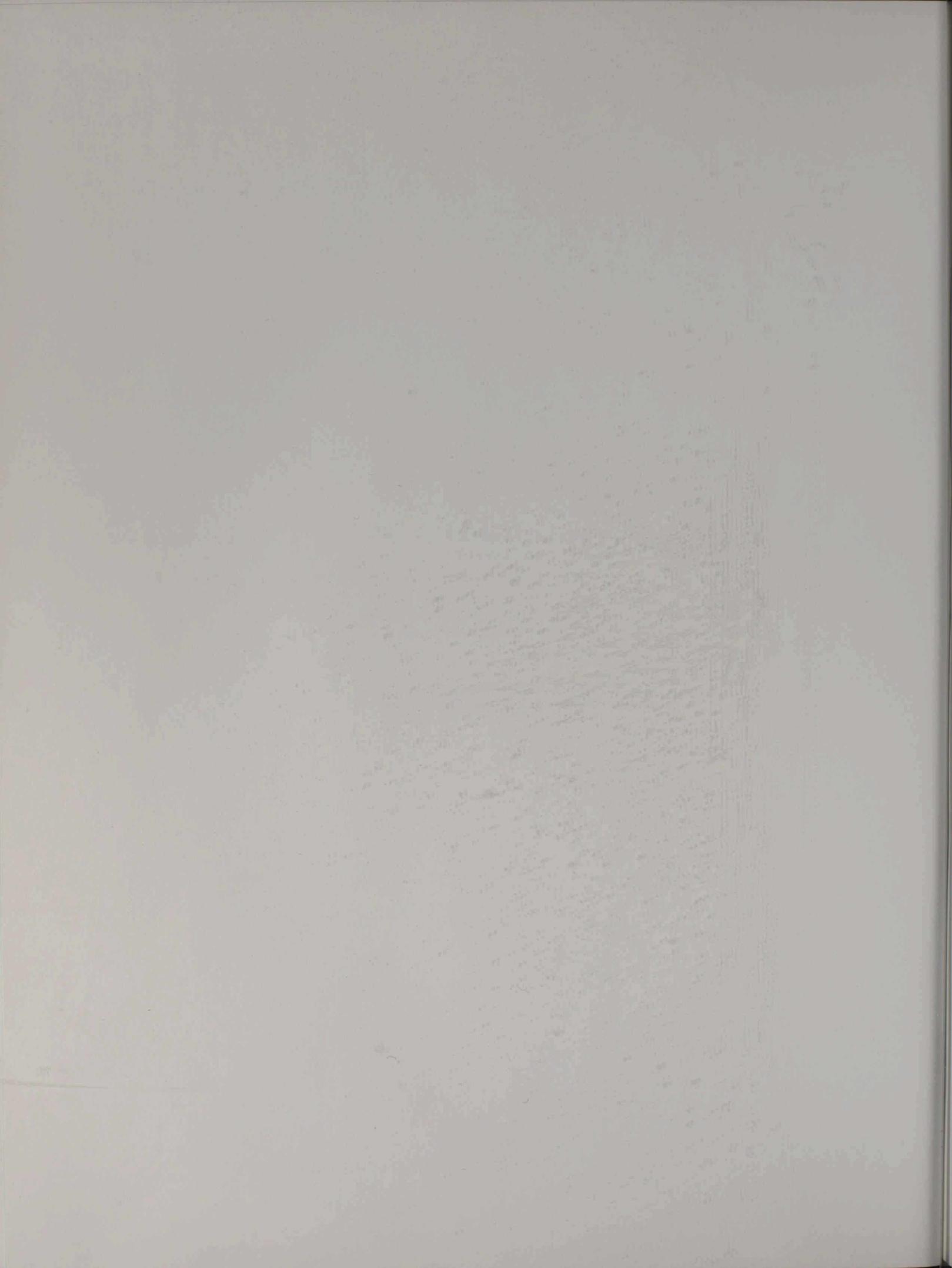
Also issued as
CD/294
21 July 1982

NOT REPRODUCED
(see WP volume)

also issued as
CMAA 11
11 July 1982

Development of a
Convention on the
level of...
and...
...
...

NOT REPRODUCED
IN WHOLE



COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Consultations with delegations, assisted by experts, by
the Chairman of the Working Group on Chemical Weapons

It was agreed that, during the consultations 2 - 6 August 1982 by the Chairman of the Working Group on Chemical Weapons on technical issues, the following matters will be discussed:

(a) With regard to scope, possible standardized physical, chemical or biological methods enabling determination of the toxicity of "other harmful chemicals" and products formed in different kinds of production processes (including the binary technique) for chemical warfare agents, particularly those belonging to super-toxic lethal chemicals;

(b) With regard to verification, possible technical methods to monitor destruction of chemical weapons, inter alia, by means of specialized information gathering "black boxes", including the means for transmission and processing of such information.

Working Group on Chemical Weapons
CONSTITUTION ON ORGANIZATION

Consultations with delegations, assisted by experts, by
the Chairman of the Working Group on Chemical Weapons

It was agreed that, during the consultations 2 - 5 January 1952 by the
Chairman of the Working Group on Chemical Weapons on technical issues, the following
matters will be discussed:

(a) The need to keep possible standardized physical, chemical or
biological methods involving detection of the toxicity of other harmful
chemicals and products tested in different kinds of production processes (including
the many methods) for chemical warfare agents, particularly those belonging to
agent-class (nerve agents).

(b) With regard to verification, possible technical methods to monitor
destruction of chemical weapons stockpiles, by means of specialized information
gathering class now existing, the need for transmission and processing of
such information.



Yugoslavia

CD/CW/37

Working Paper on Some
Aspects of Verification
in a Chemical Weapons
Convention

Also issued as
CD/298
26 July 1982

NOT REPRODUCED
(see WP volume)

Also issued as
CIVIL
in July 1951

Working Paper on Some
Aspects of Participation
in a Planned Economy
Geneva

Yugoslavia

NOT RECORDED
(1951-1952)



YUGOSLAVIA

Suggested alternative definition of
Chemical Weapons

- (a) Super toxic lethal, other lethal, and other harmful chemicals as well as precursors of chemical warfare agents and other chemicals intended for hostile or military purposes involving the utilization of the toxic properties and ecological changes produced by such chemicals as weapons, provided their types are compatible with and that their quantities are sufficient for such purposes;
- (b) Munition or devices specifically designed to cause death or harm of living structure (man, animals and plants) through the toxic properties of the chemicals released as a result of the employment of such munitions and devices, including those with binary or multi-component technology;
- (c) Equipment specifically designed for use directly in connection with the employment of such munitions or devices.

10/10/73
20 July 1973

CONFIDENTIAL

Medical Research Service

Original: 10/10/73

TOXICOLOGY

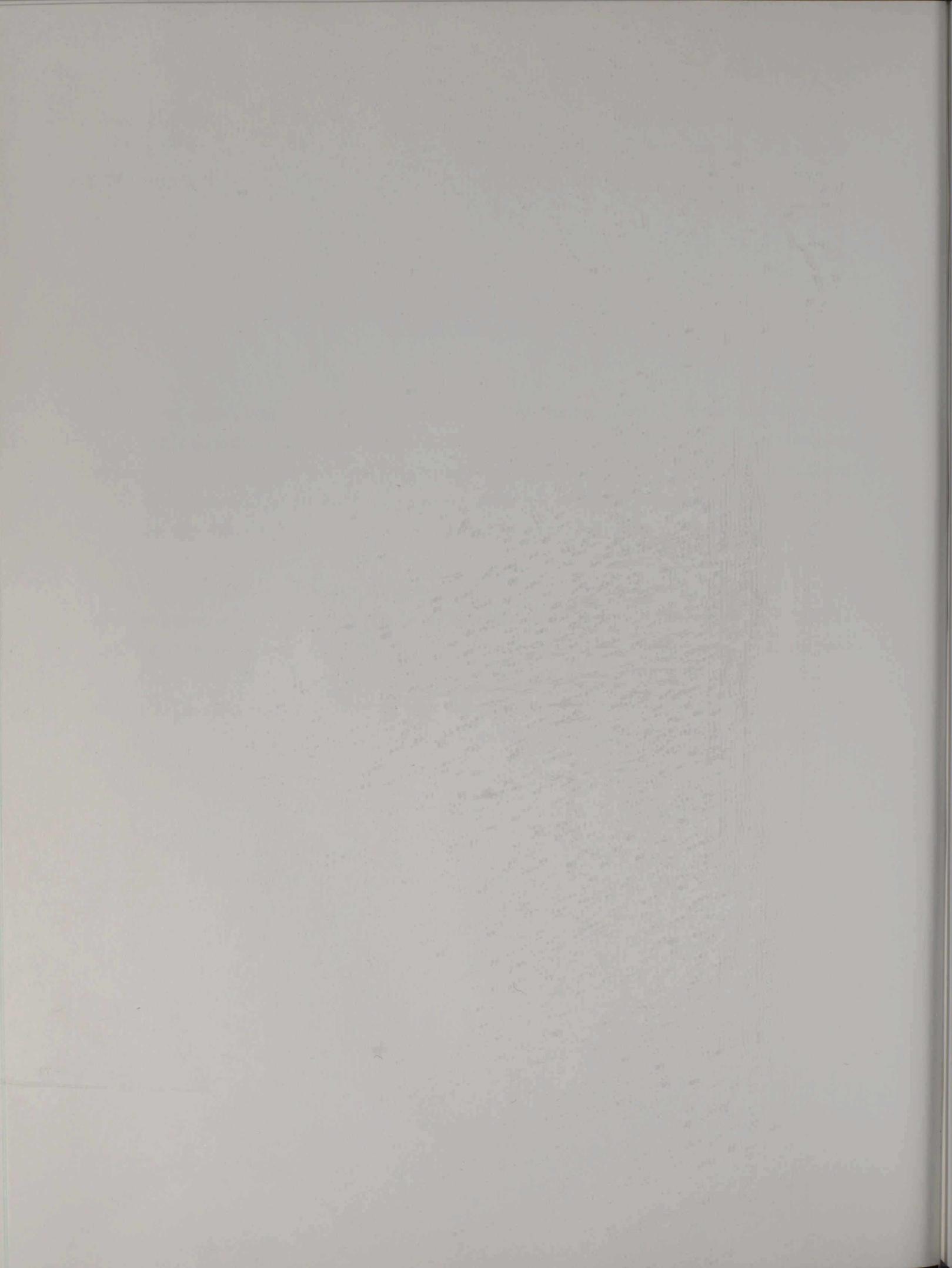
General Administrative Definition of Toxicology

(a) Toxicology is the study of the effects of chemical, physical, and biological agents on living organisms and the mechanisms of these effects.

It is a branch of science that deals with the study of the effects of toxic substances on living organisms. It includes the study of the mechanisms of toxicity, the identification of toxic substances, and the development of methods for the detection and measurement of toxic substances.

(b) Toxicology is a multidisciplinary field that involves the study of the effects of toxic substances on living organisms. It includes the study of the mechanisms of toxicity, the identification of toxic substances, and the development of methods for the detection and measurement of toxic substances.

(c) Toxicology is a branch of science that deals with the study of the effects of toxic substances on living organisms. It includes the study of the mechanisms of toxicity, the identification of toxic substances, and the development of methods for the detection and measurement of toxic substances.



Belgium

CD/CW/39

Memorandum on Monitoring
of the Prohibition of
the Use in Combat of
Chemical and
Bacteriological
(Biological) or Toxin
Weapons

Also issued
as CD/301
4 August 1982

NOT REPRODUCED
(see WP volume)

also issued
as CD/101
4 August 1981

Investigation on Monitoring
of the Production of
the Use of Types of
Chemical and
Biological
(Statistical) of Data
Report

and Appendix
(see p. viii)

CD/101

Belgium



Federal
Republic
of Germany
and
Netherlands

CD/CW/40

Letter Dated 9 August
from the Heads of the
Delegations of the
Federal Republic of
Germany and the Kingdom
of the Netherlands
Addressed to the Chairman
of the Committee on
Disarmament Transmitting
a Document Containing
Preliminary Questions
Concerning CD/294

Also issued
as CD/308
10 August 1982

NOT REPRODUCED
(see WP volume)

Also issued
as CD/308
10 August 1982

Letter Dated 7 August
from the Heads of the
Delegations of the
Federal Republic of
Germany and the Kingdom
of the Netherlands
Addressed to the Chairman
of the Committee on
Disarmament containing
a Document Containing
Preliminary Questions
Concerning CD/324

NOT REPRODUCED
(see CD/308)

CD/308/40

Federal
Republic
of Germany
and
Netherlands

REGULATION

1. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
2. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
3. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
4. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
5. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
6. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
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10. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
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14. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
15. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
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18. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
19. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.
20. The regulations shall be subject to the provisions of the Health Care Code, Chapter 1, Article 1, Section 120000, et seq.



Report of the Chairman to the Working Group
on Chemical Weapons on the consultations held with
experts on technical issues

INTRODUCTION

1. The consultations were held in the week from 2 to 6 August 1982 and were based on the timetable of work proposed by the Chairman as contained in document CD/CW/CRP.64, to consider the following matters:

- I. With regard to scope, possible standardized physical, chemical or biological methods enabling determination of the toxicity of "other harmful chemicals" and products formed in different kinds of production processes (including the binary technique) for chemical warfare agents, particularly those belonging to super-toxic lethal chemicals;
- II. With regard to verification, possible technical methods to monitor destruction of chemical weapons, inter alia, by means of specialized information gathering "black boxes", including the means for transmission and processing of such information.

On behalf of the Chairman of the Working Group, Col. J. Cialowicz acted as Chairman for the consultations.

2. Thirty-five experts from 23 countries participated in the consultations of the Chairman with delegations. (See Annex I for the list of experts.)
3. Thirteen background papers on the items under consideration were presented in the course of consultations. (See Annex II for the list of background papers.)

4. The main findings of the consultations are presented below.

1. Possible standardized physical, chemical or biological methods enabling determination of the toxicity of "other harmful chemicals" and products formed in different kinds of production processes (including the binary technique) for chemical warfare agents, particularly those belonging to super-toxic lethal chemicals

5. From a technical standpoint, the conclusion reached in previous consultations with experts concerning possible toxicity criteria for "other harmful chemicals" remain valid, namely that (a) in addition to lethal toxic effects, incapacitation and other harmful effects are of importance for the convention; (b) no suitable

methods which might be applicable for the convention for determination of such effects currently exist, and (c) this issue should be reviewed in the course of appearance of new scientific and technical achievements. It was considered that drawing up a list of particularly important agents falling in this category could be useful.

6. With respect to precursors, it was generally felt that there were two principal tasks: (a) to define the concept of "precursors" for the purposes of the convention, and (b) to determine which precursors require particular attention from the standpoint of verification. With regard to the definition of precursor, it was pointed out that it was under active consideration in the Working Group on Chemical Weapons. It was agreed to await the result of this work.

7. The discussion of known binary chemical weapons systems revealed that in these systems well-known lethal chemicals are formed which have already been produced in large quantities by traditional methods. The same precursors are used to obtain these chemicals both in binary systems and by traditional methods. Nonetheless, the subject of precursors has quite a few specific aspects which are of paramount importance from the point of view of ensuring the universal prohibition of chemical weapons and deserves special attention. Some experts expressed the view that this was particularly valid for binary and other multicomponent chemical weapons. This opinion was strongly challenged by some other experts.

8. In view of the difficulty encountered in formulating a precise overall definition regarding the term "precursor", it was generally felt that the possibility, inter alia, of drawing up a list of so-called "key precursors" deserved serious consideration. It was found that toxicity criteria could not be used for identifying a so-called "key precursor" itself, since the toxicity of the precursor was not directly related to the toxicity of the end product. However, the toxicity criteria may be applied for the classification of precursors by means of toxicity tests on their end products, if necessary. Another option would be to focus on specific chemical families.

9. A paper regarding determination of toxicity of aerosols, as well as an extrapolation of toxicity data from animal to man was presented. The contribution was discussed briefly and it was suggested that this issue should be reviewed in the course of appearance of new scientific and technical achievements. Others believed that not only was this unnecessary but that it amounted to reopening issues which had been resolved in previous expert consultations. There was disagreement as to whether this issue was included in the agenda.

10. The participants in the consultations expressed their gratitude to those countries which have carried out experimental work intended to work out verification methods for a future convention on prohibition of chemical weapons and encouraged other States to undertake such experimental work.
- II. Possible technical methods to monitor destruction of chemical weapons, inter alia, by means of specialized information gathering "black boxes", including the means of transmission and processing of such information
11. During the second part of the Chairman's consultations on technical issues possible technical methods to monitor destruction of chemical weapons was discussed, inter alia, by means of specialised information gathering "black boxes" including the means for transmission and processing of such information. On this subject, several background papers as well as visual material were presented. They outlined the principal approaches to the main questions of monitoring the operation of destruction processes and to verify such processes. Views were expressed that part of the data, in particular, on these issues may prove to be useful for other States in the interests of the convention. The background papers and visual materials gave rise to some comments and questions.
12. It was generally felt that two of the principal verification tasks in this area are (a) to confirm the identity and quantity of the materials destroyed, and (b) to confirm that the materials have actually been destroyed. Technical procedures which might be used to accomplish these tasks were discussed in a general way during the consultations. The question of whether methods existed which could be used without on-site inspection was raised. Some expressed the view that suitable methods were not available, and noted that no proposals had been made. Others expressed the view, that this discussion due to its general nature did not allow an opportunity to provide a concrete definite answer to this question. On-site monitoring might be carried out both by technical personnel and devices. The common view was that the selection of technical procedures for fulfillment of the first task should be closely linked both to the specificity of the declaration and the type of destruction process. With respect to the second task, it would be important to confirm that the process destroyed the materials completely and that nothing was diverted in lieu of being processed. An opinion was expressed that the technical monitoring procedures might include inspection before operations begin, sealing or surveillance of key areas, effluent testing, and visual observation.

13. The concept of "black boxes" was discussed and the following tentative definition of the concept was presented:

"Black Box": Secure sensors and systems generating authentic data for purposes of verification of compliance with the chemical weapons convention. It was agreed that there is a need to identify sensors and information processing systems, as well as a need to guarantee the security of equipment and information, and the reliability of the whole system.

14. Factors which caught particular interest concerned the parameters that could possibly be monitored. It was concluded the types and number of parameters that had to be followed varied in different cases. These matters need to be clarified by further technical studies.

15. The question of the relationship of monitoring by sensors to verification of destruction of stockpiles was touched upon. In general, as regards instrumental methods of collecting, processing and transmitting information, these were considered to be preliminary owing to the lack of technically well-founded data. In this connexion, it was pointed out that the topics of ensuring authenticity of such information, of its transmission and processing as well as of the potential effectiveness of such monitoring systems should be studied.

16. Obviously, the above-mentioned technical topics do not prejudice the nature of on-site inspection, whether by national or international means.

III. Suggestions for the agenda for the meeting of experts in the spring of 1983

A. Experts should be asked to provide material for lists of agents in the category "other harmful chemicals" and for the list of important precursors to be considered.

B. Elaboration of recommendations for methods of aerosol inhalation toxicity determination.

Elaboration of recommendations to enhance the accuracy of toxicity determination (generalization and analysis of scientific data regarding the extrapolation of toxicological data to man).

C. Technical evaluation of the use of specialized information gathering systems ("black boxes") as components of a CW verification system, including the means for transmission and processing of such information.

Possible technical methods to monitor destruction of chemical weapons.

Possible technical methods to monitor the inactive status of chemical weapons production and filling facilities and to confirm that such facilities are eventually destroyed.

Possible technical methods to monitor small-scale permitted production of super-toxic lethal chemicals for purposes related to protection against chemical attack.

D. With regard to the scope of the prohibition:

- (a) The drawing up of technical recommendations permitting the determination of the limits of binary systems of chemical weapons of all kinds;
- (b) The drawing up of standard methods for the determination of toxicity by the aerosol inhalation method;
- (c) The drawing up of recommendations to improve the precision of toxicity determination (compilation and analysis of scientific data concerning the transfer of toxicity data to human beings);
- (d) Possible methods for differentiating "other harmful chemicals" for the purposes of the convention.

With regard to verification:

1. The drawing up of technical methods for verification of the destruction of binary systems including:
 - Precursors of use only for purposes of chemical warfare;
 - Precursors which may be converted for permitted uses;
 - Devices or constructions directly intended for the formation of an end-purpose mixture;
 - End-purpose additives.
2. The drawing up of technical methods for verification of the cessation of the production of precursors, end-purpose additives and devices or constructions specially intended for binary systems.
3. The drawing up of standard methods for the protection and monitoring of the state of the ecology during the destruction of stocks of chemical weapons.

...of the ...

ANNEX I

LIST OF EXPERTS

MEMBER STATES:

- Belgium: CD/CW/15 Working Paper on toxicity criteria for "low D5 preparations", submitted by Sweden
Capt. H.C. Bisschop
- Bulgaria: CD/CW/16 Working Paper on stocks of stockpiles of chemical weapons and chemical agents, submitted by Sweden
Lt. Col. N. Mihailov
- Canada: CD/CW/17 Working Paper on stocks of toxicity determination, submitted by Hungary
Dr. M.C. Hamblin
- China: CD/CW/18 Working Paper on stocks of chemical warfare agents and means of verification, submitted by the Federal Republic of Germany
Mr. Li Weimin
Mr. Yu Zhon zhou
- Egypt: CD/CW/19 Working Paper on the definition of "precursors" of chemical warfare agents, submitted by France
General Ezz
- France: CD/CW/20 Working Paper on the identification of chemical warfare agents, submitted by Finland
Col. B. Gesbert
- German Democratic Republic: CD/CW/21 Working Paper on a chemical weapons convention, submitted by Norway
Dr. R. Trapp
- Germany, Federal Republic of: CD/CW/22 Working Paper on remote monitoring of chemical weapons destruction, submitted by the United States
Dr. J. Pfirschhe
- Hungary: CD/CW/23 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Col. Dr. E. Sebok
- Indonesia: CD/CW/24 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Col. Fauzy Qasim
- Italy: CD/CW/25 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Capt. Dr. R. di Carlo
- Japan: CD/CW/26 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Dr. I. Akiyama
- Netherlands: CD/CW/27 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Dr. A.J.J. Ooms
- Poland: CD/CW/28 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Col. J. Cialowicz
- Romania: CD/CW/29 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Col. Dr. M.S. Dogaru
- Sweden: CD/CW/30 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Dr. J. Lundin
Dr. J. Santesson
Dr. H. Ohlsson
Dr. S.A. Persson
- USSR: CD/CW/31 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Mr. L.A. Naumov
Mr. A.P. Koutepov
Mr. V.M. Tcherednichenko
- UK: CD/CW/32 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Dr. T. Inch
- USA: CD/CW/33 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Dr. R. Mikulak
Col. C. Bay
Prof. N. Kyriakopoulos
Col. J. Leonard
Dr. B. Mattas
Mrs C. Stettner
Mr. R. Whelen
- Yugoslavia: CD/CW/34 Working Paper on procedures for verification of the destruction of declared chemical weapons, submitted by the United States
Prof. Dr. Vojvodić

NON-MEMBERS:

- Denmark: Dr. J. Leerhoy
- Finland: Dr. J. Enqvist
- Norway: Dr. F. Fonnum

ANNEX I
LIST OF EXPERTS

MEMBER STATES	NAME
Bahrain	Mr. H. G. ...
Belize	Mr. ...
Canada	Mr. ...
China	Mr. ...
Egypt	Mr. ...
France	Mr. ...
Germany	Mr. ...
India	Mr. ...
Indonesia	Mr. ...
Italy	Mr. ...
Japan	Mr. ...
Kenya	Mr. ...
Malaysia	Mr. ...
Netherlands	Mr. ...
Poland	Mr. ...
Romania	Mr. ...
Sweden	Mr. ...
Switzerland	Mr. ...
Taiwan	Mr. ...
Thailand	Mr. ...
Turkey	Mr. ...
USA	Mr. ...
USSR	Mr. ...
Yugoslavia	Mr. ...
NON-MEMBER STATES	
Belgium	Mr. ...
Denmark	Mr. ...
Finland	Mr. ...
Germany	Mr. ...

ANNEX II

BACKGROUND PAPERS PRESENTED

- CD/CW/CTC/15 Working Paper on toxicity criteria for "key CW precursors", submitted by Sweden
- CD/CW/CTC/16 Working Paper on monitoring destruction of stockpiles of chemical weapons and chemical warfare agents, submitted by Sweden
- CD/CW/CTC/17 Working paper on certain problems of toxicity determination, submitted by Hungary
- CD/CW/CTC/18 Working Paper on destruction of stocks of chemical warfare agents and means of verification, submitted by the Federal Republic of Germany
- CD/CW/CTC/19 Working Paper on the question of the definition of "precursors" and the control of binary weapons, submitted by China
- CD/CW/CTC/20 Working Paper on destruction methods, submitted by France
- CD/CW/CTC/21 Working Paper on progress in systematic identification of chemical warfare agents: identification of non-phosphorus agents, submitted by Finland
- CD/CW/CTC/22 Working Paper on verification of a chemical weapons convention, submitted by Norway
- CD/CW/CTC/23 a briefing on United States chemical weapons destruction programme
- CD/CW/CTC/24 Working Paper on the technical evaluation of remote monitoring of on-site sensors, submitted by the United States
- CD/CW/CTC/25 Working Paper on the technical procedures for verification of the destruction of declared chemical weapons stockpiles, submitted by the United States
- CD/CW/CTC/26 Working Paper on toxicity determination of chemical weapon agents, submitted by the German Democratic Republic
- CD/CW/CTC/27 Working Paper on some problems concerning the prohibition of binary weapons and verification of the implementation of this prohibition, submitted by the Soviet Union

Note: Documents CD/CW/CTC/22 and CD/CW/CTC/23 are available in English only

ANNEX II
BACKGROUND PAPERS PRESENTED

- CD/CW/EC/15 Working paper on toxicity criteria for "key substances", submitted by Sweden
- CD/CW/EC/16 Working paper on monitoring destruction of stockpiles of chemical weapons and chemical warfare agents, submitted by Sweden
- CD/CW/EC/17 Working paper on certain problems of toxicity determination, submitted by Hungary
- CD/CW/EC/18 Working paper on destruction of stocks of chemical warfare agents and means of ventilation, submitted by the Federal Republic of Germany
- CD/CW/EC/19 Working paper on the question of the definition of "production" and the control of party weapons, submitted by China
- CD/CW/EC/20 Working paper on destruction methods, submitted by France
- CD/CW/EC/21 Working paper on progress in systematic identification of chemical warfare agents, identification of non-chemical agents, submitted by Hungary
- CD/CW/EC/22 Working paper on verification of chemical weapons convention, submitted by Hungary
- CD/CW/EC/23 a brochure on United States chemical weapons destruction program
- CD/CW/EC/24 Working paper on the technical evaluation of remote monitoring of on-site storage, submitted by the United States
- CD/CW/EC/25 Working paper on the technical procedures for verification of the destruction of chemical warfare agents, submitted by the United States
- CD/CW/EC/26 Working paper on toxicity determination of chemical warfare agents, submitted by the Central Command, Republic
- CD/CW/EC/27 Working paper on the progress concerning the prohibition of chemical warfare and verification of the implementation of this prohibition, submitted by the United States

Note: Documents CD/CW/EC/12 and CD/CW/EC/13 are available in English only.

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

CD/CW/WP.41/Corr.1
25 August 1982

Original: ENGLISH

Report of the Chairman to the Working Group
on Chemical Weapons on the consultations held with
experts on technical issues

Corrigendum

1. Page 4, para. 13, fifth line, delete the word "agreed" and replace with "argued".
2. Page 4, para. 14, second line, delete the word "concluded" and replace with "stated that".

CD/CW/2 (1/00) 1
25 August 1982

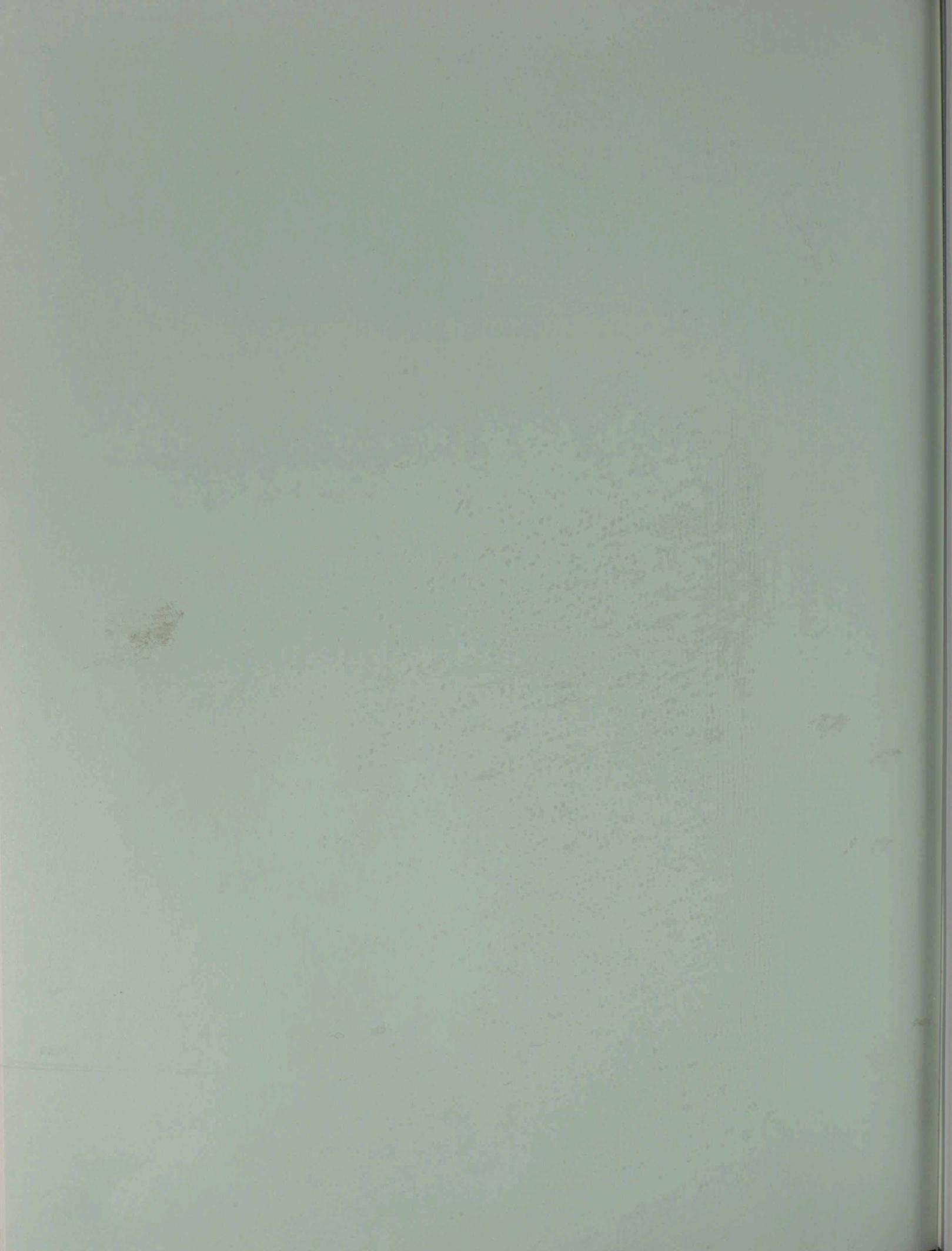
Original: ENGLISH

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

Report of the Chairman to the Working Group
on Chemical Weapons on the consultations held with
experts on technical issues

Contents

1. Page 4, para. 15, fifth line, delete the word "agreed" and replace with "agreed".
2. Page 4, para. 14, second line, delete the word "concluded" and replace with "related that".



France

CD/CW/WP.42

Working Paper on the
Monitoring of the
Destruction of Stocks
of Chemical Weapons

Also issued
as CD/316
19 August 1982

NOT REPRODUCED
(see WP volume)

Also issued
as CD/318
18 August 1981

... on the
... of the
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... weapons

18808

CD/CW/WP.43 Draft Report of the Ad Hoc 6.9.82
Working Group on Chemical
Weapons

NOT REPRODUCED

CD/CH/WP.44

Views of the Chairman
of the Ad Hoc Working
Group on Possible
Compromise Wording of
the Elements of a
Future Convention

Also issued
as CD/333
14 Sept. 1981

NOT REPRODUCED
(see WP 44/1981)

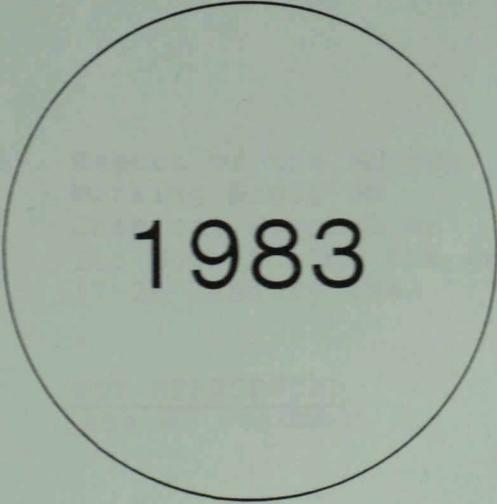


CD/CW/WP.44

Views of the Chairman
of the Ad Hoc Working
Group on Possible
Compromise Wordings of
the Elements of a
Future Convention

Also issued
as CD/333
14 Sept. 1982

NOT REPRODUCED
(see WP volume)



1983

CD/CW/WP.45 Report of the Ad Hoc
Working Group on
Chemical Weapons on
Its Work During the Period
17-28 January 1983

Also issued as
CD/342
8 Feb. 1983

NOT REPRODUCED
(see WP volume)

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES

MEMORANDUM

TO : THE DIRECTOR, DIVISION OF THE PHYSICAL SCIENCES
FROM : [Name]

1. [Faint text paragraph 1]

2. [Faint text paragraph 2]

3. [Faint text paragraph 3]

4. [Faint text paragraph 4]

5. [Faint text paragraph 5]

6. [Faint text paragraph 6]

7. [Faint text paragraph 7]

8. [Faint text paragraph 8]

9. [Faint text paragraph 9]

10. [Faint text paragraph 10]

CD/CW/WP.46
12 April 1983

Original: ENGLISH

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

THE NETHERLANDS

Suggested list of key precursors - including those usable
in multicomponent chemical weapon systems

Key-precursors for super toxic lethal chemicals

Phosphorus trichloride (PCl_3)

Phosphorus oxychloride (POCl_3)

Chemicals containing the P-methyl and/or P-ethyl bond

Methyl and/or ethyl esters of phosphorus acid

3,3 dimethyl butanol-2 (pinacolyl alcohol)

N.N disubstituted β - amino ethanol

N.N disubstituted β - amino ethane thiol

N.N disubstituted β - amino ethyl halides (halide = Cl, Br or I)

Key-precursors for other harmful chemicals

Phenyl, alkyl or cycloalkyl substituted glycolic acid

3- or 4-hydroxy-piperidine and their derivatives

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

REPORT

The following information was obtained from the records of the Bureau of Land Management, Department of the Interior, at Washington, D. C., and is being furnished to you for your information.

1. DESCRIPTION OF LAND

The land described in this report is situated in the County of _____, State of _____, and is more particularly described as follows:

2. ACQUISITION

The land described in this report was acquired by the Bureau of Land Management, Department of the Interior, on _____, 19____, by _____.



COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

UNITED STATES DELEGATION IMPRESSIONS OF THE CW
TECHNICAL CONSULTATIONS HELD IN JANUARY 1983

I. Introduction

The United States delegation, considering the possible future significance of the technical consultations regarding a chemical weapons ban, held during the period 17 January - 4 February 1983, would like to bring its impressions of these discussions to the attention of others. We hope that this paper will contribute to the negotiations on an agreement and would welcome any comments.

II. Discussions on Topic A

Topic A

"On the basis of the working hypothesis on the definition of chemical weapons (see CD/334, annex, pages 3-10) including the concepts of precursors and key precursors, it is suggested that the following questions may be directed to the technical expertise of delegations:

- (a) what are the views on the 'working hypothesis' on definition of these concepts?
- (b) to what extent - and by which method - would it be possible to compose lists of key precursors?"

Discussions

The delegations deemed it necessary to elaborate the criteria, to which would correspond the "important" or "key" precursors, as well as the definitions of such precursors. These criteria and definitions were understood to serve for purposes of composition of the lists of these precursors, to which specific methods of verification would apply.

It was suggested by some delegations to differentiate in the process of elaboration of such criteria, definitions and lists among the "important" or "key" precursors on the basis of the specific role played by them in obtaining the chemicals for chemical weapons at a production facility or in binary munitions or similar devices. In this connection an illustrative list of binary chemical system was presented.

Other delegations, however, maintained that such differentiation is not necessary due to the coincidence of the combinations used as precursors at the production facilities and of the components of binary systems.

A number of delegations presented proposals for specific criteria for "important" or "key" precursors. As a result of detailed discussion of these proposed criteria, general agreement was reached that such "important" or "key" precursors, inter alia:

- should have particular significance for the determination of the basic characteristics of the final chemical;
- should have no, or only limited, use for non-hostile purposes.

Some delegations believed that further criteria should be considered, for example, that an "important" or "key" precursor should be a precursor in the final stage of the synthesis.

A specific list of "important" or "key" precursors was presented in CD/CW/WP.46. Many delegations stated that this preliminary list was a good starting point for further discussion of applicable verification measures.

Other delegations stated that without further consideration of criteria and definitions, adoption of a list, even on a preliminary basis was premature.

III. Discussions on Topic B

Topic B

"With respect to destruction of stockpiles of chemical weapons, verification procedures should

- (i) verify the types and quantities of chemicals to be destroyed;
- (ii) ensure that they have been destroyed.

In this connection technical experts of delegations may be asked to address the following questions:

- (a) what technical procedures could be suggested in order to monitor destruction of stockpiles of chemical weapons?
- (b) what specific elements need to be included in declarations made by State Parties, in order to meet the requirements mentioned above?
- (c) do methods of destruction of stockpiles need to be specified, and in what detail, in order to assure State Parties that stocks have been destroyed and are not capable of being diverted again to use as chemical weapons?"

Discussions

The group, without prejudice to national positions, used document CTC/28, entitled "Verification Techniques for Destruction of Declared Chemical Weapons Stockpiles", as a preliminary basis for discussion. On the basis of the ensuing discussion, a working hypothesis (document CD/CW/WP.48) was proposed regarding systematic international on-site inspection of the destruction of declared stocks. Revisions were suggested by several delegations.

With respect to specific technical procedures to be employed, there was general support for the use of a combination of chemical, biological, and physical techniques. The need for agreed, standardized procedures was emphasized. The identity, purity, and quantity of the chemical to be destroyed should be confirmed, as well as the identity and quantity of the destruction products and the basic parameters of the destruction process. Views differed on the need to establish safeguards to ensure that the data obtained was reliable. Some considered that international inspectors might use the same data sources as plant operating personnel, provided the data were known to be reliable, but that the international inspectors should be entitled to obtain data independently if they considered it necessary. Others considered that data furnished by national personnel should provide the basis for the work of international inspectors. Use of a statistical accounting system was proposed (in document CD/CW/CTC/37).

Questions were raised about the number of international inspectors needed at each destruction facility. As a rough approximation the number of five inspectors was put forward, with the qualification that the actual number would depend, inter alia, on the specific verification procedures employed, the size of the facility, and the method of destruction.

Some delegations considered that international on-site inspection of stockpile destruction must be continuous in order to fulfil the agreed objectives. Others held that inspections should be based on an agreed quota, the basis for which involved predominantly political, rather than technical, considerations.

With respect to the necessary content of the initial stockpile declaration, the commonly expressed view was that toxic chemicals and their key precursors should be listed by their specific chemical name. Some delegations proposed that the quantity of each chemical in the list should be specified. Other delegations held that this approach was too complex and that instead the chemicals should be grouped into six toxicity categories, with an aggregate quantity specified for each category. Under this approach, verification procedures would vary according to the toxicity category, with the most stringent procedures applied to the most toxic category. At each stage of the 10-year destruction process, a declaration would be made of the amount of each specific chemical to be destroyed.

The opinion was expressed by some delegations that it was necessary to work out methods for checking the correctness of the initial stockpile declaration. Other delegations considered that any declaration made by a State Party must a priori be considered as correct unless evidence to the contrary was provided.

Some delegations proposed specific procedures, based largely on visual observation, for systematic international on-site verification of destruction of

munitions and equipment "specifically designed" for chemical weapons purposes. Other delegations, while recognizing the importance of verification of the destruction of such items, considered that this topic should be taken up at a later stage.

The view was put forward by some delegations that it was necessary for international verification to be based upon co-operation between national personnel with the responsibility for ensuring the implementation of the convention, including the staff of the destruction facility, and international inspectors. Other delegations, while willing to consider carefully defined measures of co-operation, stressed the need for international inspectors to be independent of national personnel.

With respect to methods of destruction, the common view was that the method of destruction should ensure that the material destroyed could not easily be recycled for chemical weapons production. Many delegations supported the proposal that in the case of phosphonic acid derivatives, the carbon-phosphorus bond should be broken. Incineration was generally considered to be the preferred method of destruction for chemicals. The general view was that, as long as complete destruction was accomplished and other requirements met, a State should have the right itself to decide on the method of destruction it would employ.

IV. Discussion on "Other Technical Issues"

In the framework of the agenda item "Other Technical Issues of Direct Relevance to the Work of the Working Group, Aimed at Facilitating the Negotiating Process", papers were presented on verification procedures for declared chemical weapons production and filling facilities, the toxicity of tricothecenes, and organophosphorus precursors.

Many delegations considered that chemical weapons production and filling facilities should be declared at an early stage and monitored by a combination of on-site sensors and periodic international inspection visits. Other delegations advocated declaration in two stages and verification by "national means". At the time a State became a party only aggregate capacity would be declared. The location of a facility would be declared in the second stage, which would begin no later than eight years after entry into force for the party.

Discussion of verification procedures for declared CW facilities led to a very active discussion of procedures to be applied to commercial facilities which might be used for production of super-toxic lethal chemicals or key precursors for chemical weapons purposes. It was agreed that this topic warranted considerable further study and discussion.

The papers concerning tricothecenes and organophosphorus precursors were not discussed due to lack of time.

OFFICE OF DISARMAMENT
Working Group on Chemical Weapons

Final Report

Systematic Destruction of Chemical Weapons
in the Possession of the Destroying of
Declared States

Presented to the Working Group on Chemical Weapons
Chairman's Report (1953)

...of declared states of chemical weapons should be subject
...international organizations and agencies.
The purpose of such systematic international co-operation would
...
...the type, quantity, and quality of the chemical weapons
...
...of these weapons and their destruction would be subject to
...chemical, biological, and radiological
...
...of these general types:
...the chemical, biological, and radiological weapons
...the destruction of these weapons;
...the destruction of these weapons;
...the destruction of these weapons.

COMMITTEE ON DISARMAMENT
Working Group on Chemical Weapons

UNITED STATES

Working Hypothesis on Systematic, International
On-Site Inspection of the Destruction of
Declared Stocks

(Presented 1 February 1983, during the
Chairman's Technical Consultations)

- Destruction of declared stocks of chemical weapons should be subject to systematic international inspection on an agreed basis.
- The purpose of such systematic international on-site inspection would be to establish:
 - (a) the type, purity, and quantity of the chemical destroyed;
 - (b) the fact of destruction.
- For this purpose international verification personnel would be entitled to obtain secure and reliable information by chemical, biological, and instrumental techniques.
- This information would be of three general types:
 - (a) data regarding the chemicals themselves and their destruction products;
 - (b) data regarding the operation of the destruction process; and,
 - (c) information regarding the integrity of the verification system
(i.e. information needed to ensure that the data obtained was reliable).

STATEMENT

by the Co-ordinator of Contact Group A

The Chairman of the Working Group suggested the consideration of two subjects:
Procedures and methods for the verification of the destruction of stocks;
The basic content of declarations.

He indicated that the first page of the decalogue of tasks he had presented for the Working Group as a whole might serve as a background for the consideration of the subjects intended for Contact Group A.

In the course of the work, the following documents might prove useful:

CD/CW/WP.41, of 10 August 1982, on the consultations held with experts on technical issues, and working papers submitted during that period;

CD/CW/CTC/16 (subsequently CD/325) (Sweden);

CD/CW/CTC/20 and CD/316 (France);

CD/CW/CTC/24 and CD/CW/CTC/25 (United States of America);

Working papers on the consultations of the Chairman of the Working Group with delegations on technical issues, which took place from 17 January to 4 February 1983:

CD/CW/CTC/28 (United States of America);

CD/CW/CTC/37 and CD/CW/CTC/38 (USSR);

CD/294 (USSR);

CD/333 (Views of the Chairman of the Ad Hoc Working Group);

CD/334 (Report of Co-ordinator of Contact Group Mr. Altaf);

CD/342 (Report of Co-ordinator of Contact Group Mr. Duarte);

CD/343 (United States of America)

and other documents.

Questions on which mutual understanding exists or is developing and those on which a divergence of views subsists:

1. There is agreement that all stocks of chemical weapons (chemicals, munitions, equipment) should be destroyed. However, paragraph 10 of the report in document CD/334 and also documents CD/294 and CD/333 refer to the destruction or diversion of stocks. Document CD/112 also speaks of the "destruction or diversion of declared stocks". The "diversion of stocks" may apply particularly to dual-purpose chemicals, as is described, for example, in the working paper of France, document CD/316 of 19 August 1982, paragraph 3 (phosgene was extracted from the munitions and resold to the peaceful chemical industry). However, the United States document, CD/343, of 10 February 1983, does not use the expression "the diversion of stocks".

2. All the documents are agreed that declarations of existing stocks of chemical weapons should be made not later than (or in the course of) 30 days following the entry into force of the convention or the accession to it of States parties. But there is a difference of views as to the description of the stocks held for the purposes of their inclusion in declarations (aggregate figures or more detailed data: type, quantity, scientific chemical name, etc.).

There is also a difference of views as to whether declarations should indicate the location of stocks of chemical weapons.

3. There is full agreement that the destruction of stocks of chemical weapons should be completed in not more than (or in the course of) 10 years.

It will be necessary to work out plans for the destruction of stocks. But for that purpose it is essential to speed up the elaboration in the Working Group of the definition of the term "chemical weapons", and generally to complete the work in the sphere of the scope of the prohibition in the future convention, so as to have a clear idea as to what will have to be destroyed or diverted, and where and how.

4. The declarations of existing stocks should include two other elements, which have not so far been agreed on. These are the following:

The mandatory period for the beginning of the destruction of stocks. There are alternative proposals for one, three or six months or two years after the entry into force of the convention;

A formula ensuring a balance during the stage of the destruction of stocks so that no State party should acquire military superiority over another.

5. It can be said that a consensus already exists, with the participation of the USSR and the United States of America, that during the period of the destruction of stocks of chemical weapons, provision should be made for systematic international on-site verifications at specialized facilities for the destruction of such stocks.

In the view of the United States, international inspectors should be present at facilities for the destruction of stocks of chemical weapons, and sensors should be utilized also.

6. The frequency of systematic international on-site inspections for the verification of the destruction of stocks has not yet been agreed on.

It has been suggested that such verification should be carried out:

on the basis of an agreed quota;

or on a permanent basis.

7. The proposed verification of the accuracy of initial declarations has given rise to serious objections and disagreements.

8. Some delegations consider that technical procedures for the verification of the destruction of stocks using sensors, black boxes, etc., might help to overcome the difficulties in the way of agreement concerning systematic international on-site verifications on an appropriate basis.

To sum up the above, it may be said that the areas of disagreement that remain consist in particular of the following:

- (a) The content of the initial declarations of stocks of chemical weapons: whether the information contained in them should give general figures or more detailed data about chemicals, their type, quantity, toxicity, name, percentage content, etc.;
- (b) Verification of the accuracy of declarations of stocks of chemical weapons. Many delegations consider such verification to be undesirable and impossible;
- (c) Whether or not there should be an indication in declarations of the location of stocks of chemical weapons. A number of delegations consider that such a requirement would be unrealistic and that it is not necessary;
- (d) The period for the beginning of the destruction of stocks;
- (e) Whether only destruction should be permitted or whether it should also be permitted to divert stocks to authorized purposes.

The following tasks are of great importance for the speeding up of agreement in the Ad Hoc Working Group on Chemical Weapons on the problem of the destruction of stocks as a whole in the interests of the future convention:

The completion of work on the definition of chemical weapons and the scope of the prohibition in the future convention, so that it is clear what is to be destroyed;

A statement of general principles for the procedures for the verification of the destruction of stocks;

A discussion of the desirability and technical feasibility of installing sensors at facilities for the destruction of stocks so as to facilitate the carrying out of international on-site verifications;

Agreement on a method (on an appropriate basis) that is acceptable to all States parties for systematic on-site verifications of the destruction of stocks of chemical weapons.

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

Views of the Polish delegation on the results of the consultations
with delegations on technical issues held in the framework of the
Ad Hoc Working Group on Chemical Weapons during the period
17 January - 4 February 1983

I. On Topic connected with precursors and key precursors

On the basis of the working hypothesis on the definition of chemical weapons (see CD/334, Annex, pages 3-10) including the concept of precursors and key precursors, it was suggested that the following questions may be directed to the technical expertise of delegations:

(a) What are the views on the "working hypothesis" on definition of these concepts?

(b) To what extent - and by which method - would it be possible to compose lists of key precursors?

Two approaches have emerged in the course of the discussion of the question covered by this topic.

Some delegations deemed it necessary to solve the problem of precursors through elaboration of the criteria on the basis of which one could single out the "important" or "key" precursors out of the mass of predecessors of the prohibited chemicals, as well as the definitions of such precursors for their introduction into the text of a convention and composition of the lists of these precursors. This work should be done during the preparation of the draft convention in the Committee on Disarmament, and in any case before the entry into force of the convention. The Consultative Committee, guided by the definition of "important" or "key" precursors and the list of criteria for such precursors, would update such a list in future, if necessary.

Other delegations, while recognizing the feasibility of agreeing upon the criteria and elaborating the definition for "important" or "key" precursors, suggested to initiate the solution of the problem of precursors by composing a list of precursors, in particular the precursors of organophosphorous chemicals used in chemical weapons.

Within the framework of these two basic approaches during the consultations the following questions have been raised:

- the elaboration of the definition or an agreed understanding in respect of the precursors of all the categories of chemicals covered by the Convention;
- the differentiation of the definitions of "important" or "key" precursors of the chemicals depending on whether they are used for chemical weapons purposes at a production facility or in binary munitions or similar devices;
- the use of a similar differentiated approach to identify the criteria on the basis of which one could compose the lists of "important" or "key" precursors, in respect of the precursors used at a production facility and in binary munitions or similar devices;
- the definition of specific contents of the lists of "important" or "key" precursors and the list of binary chemical systems.

Many delegations were of the opinion that the elaboration of the list of "important" or "key" precursors should be started from the category of "super-toxic lethal chemicals" and then followed by the "dual-purpose precursors". Some other delegations were of the view that at the present stage of our work no difference should be created between these two groups of precursors. Some delegations presented their preliminary lists of "important" or "key" precursors, based on their own considerations (see one of them in CD/CW/WP.46).

As a result of more detailed discussion of the criteria for one category of precursors - the "important" or "key" precursors of the super-toxic lethal chemicals obtained at the facilities, some delegations argued that such precursors:

- should be precursors in the final stage of the synthesis;
- should have particular significance for the pre-determination of the basic characteristics of the final super-toxic lethal chemical;
- to have no or limited use for non-hostile purposes.

Some delegations believed that the first of the above-mentioned criteria should be subject for further discussion.

II. On Topic connected with monitoring of destruction of stocks

It was suggested that the following questions may be directed to the technical expertise of delegations:

What technical procedures could be suggested in order to monitor destruction of stockpiles of chemical weapons? What specific elements need to be included in declarations made by States parties, in order to meet the requirements mentioned

above? Do methods of destruction of stockpiles need to be specified and in what detail, in order to assure States parties that stocks have been destroyed and are not capable of being diverted again to use as chemical weapons?

The experts endeavoured to narrow the range of differences between them on this topic and increase their mutual understanding.

With regard to the technical procedures for destruction, it was the general view that any destruction facilities could be equipped with measuring, analytical and monitoring devices and equipment capable of suitable precision, reliability and reproducibility over sufficiently long periods of operation.

In the course of the discussion, the view was expressed that the representatives of international verification bodies should, when necessary, be present at the facilities at the time of the destruction of stocks of chemical weapons.

As to a technical justification for choosing either permanent or periodic verification, none was presented during the consultations. The experts' opinions were also divided with respect to the extent of international verification of the destruction of stocks of chemical weapons. Some considered that it was sufficient to verify the quantity and composition of components entering the destruction facility and the products of destruction leaving the facility, as well as the basic parameters of the technological system used. Others proposed that the preparatory and other stages and the details of all parameters of the technological process should be verified. In addition, they considered it necessary to set up duplicate verification systems for the data received from staff working in the installations.

During the discussion of the question of the methods of destruction, some delegations expressed the view that the initial declaration could contain general data on this score. Other delegations proposed that detailed information should be given in destruction plans.

With regard to the declarations of stockpiles of chemical weapons themselves, some delegations proposed that declarations should cover stockpiles of six groups of chemicals and their "major" or "key" precursors, and that these should subsequently be specified in detail in the plans for their destruction. Others proposed that from the outset detailed declarations should be made regarding each chemical individually and on each of its "major" or "key" precursors.

The opinion was expressed that it was necessary to work out methods for verifying the correctness of declarations. This viewpoint was not shared by a number of other delegations, which considered that any declaration made by a State party to the convention should a priori be considered as correct and could be doubted only if well-founded suspicions arose.

The question of the specific content of declarations relating to any particular stage of the destruction of stocks was not considered.

The opinion was expressed that it was necessary to have clearly defined forms of co-operation between national bodies discharging functions in ensuring implementation of the convention, including the staff of the destruction facility and international inspectors. The latter may have access to data relating to the destruction which are at the disposal of facility staff and national inspectors.

It was proposed that international inspectors should observe the destruction of stocks from a control point.

The question of the number of international inspectors necessary at facilities was discussed. The figure of three to five persons per facility was put forward. Other delegations considered that it was impossible to settle this issue without regard to the nature and form of verification, the size of the facility, the method of destruction and so forth.

The issues of the precision and measurement devices, uniform, standardized methods for the determination of the characteristics of chemicals necessary for the purpose of their destruction, as well as the procedures relating to the destruction of chemical weapons were raised.

A number of delegations considered incineration to be the best method of destroying stocks of chemicals. At the same time they considered that States should have the right themselves to decide on the method of destruction, taking into account the requirements in force for environmental protection and so forth.

III. On Topic, connected with other issues

In the framework of the agenda item "Other technical issues of direct relevance to the work of the Working Group, aimed at facilitating the negotiating process", considerations concerning the procedures of verifying the destruction and dismantling of chemical weapons production facilities were put forward. A number of delegations spoke in favour of full destruction of facilities without the right of even partial conversion for permitted purposes of the equipment and in favour of on-site verification at all stages of this process of destruction and in connection with all kinds of activity relating to this process. Other delegations, considering it necessary to carry out the destruction and dismantling of facilities, spoke in favour of a different procedure of declarations and verification.

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

UNITED STATES

PREVENTING ILLEGAL PRODUCTION OF
KEY PRECURSORS OF NERVE GAS

Two very different approaches have been proposed for ensuring that key precursors for supertoxic lethal nerve agents are not diverted from the chemical industry to chemical weapons purposes. One approach, proposed by the United Kingdom delegation in working paper CD/353, envisions declaration and inspection of facilities producing any of the key precursors contained on an agreed list.

The second approach, outlined in the Soviet plenary statement of 10 March 1983, focuses on one type of key precursor, compounds containing a methyl-phosphorus bond. Under this approach all industrial-scale production of such compounds, even for legitimate peaceful purposes, would be prohibited. Small-scale production (less than one ton) would be permitted at a single declared facility, which would be subject to international inspection. It is unclear as to what, if any, controls would be placed on other key precursors.

The Soviet approach would not appear to be effective in preventing illegal production of nerve agents for several reasons:

(a) It focuses on only one type of key precursor (methyl-phosphorus compounds) for nerve agents containing a methyl-phosphorous bond (for example, GB, soman, and VX). However, these agents can be manufactured using another type of key precursor—methyl esters of phosphorous acid.

(b) It contains no provisions for declaring or monitoring facilities which formerly produced methyl-phosphorus compounds. Therefore, there is no way to check if production has ceased.

(c) It virtually ignores key precursors for nerve agents which contain an ethyl-phosphorus bond. As the attached table indicates, the ethyl analogs of GB and VX have a toxicity close to that of the original compound. The key precursors for the methyl and ethyl compounds can easily be made in the same facility.

(d) It also apparently ignores certain supertoxic lethal nerve agents, such as tabun, which do not fall in the chemical family (phosphonic acid derivatives) to which GB, soman and VX belong.

The United States supports the United Kingdom approach to preventing production of key precursors for use in nerve agent manufacture. This approach has three features to help ensure effectiveness:

(a) It covers all key precursors for phosphonate nerve agents, not just one type. Key precursors for agents containing an ethyl-phosphorus bond are included. If necessary, other key precursors can be added to maintain adequate coverage.

(b) It includes key precursors for non-phosphonate nerve agents of the "tabun" type.

(c) It provides effective verification. Declaration of each facility producing key precursors is required. Each declared facility is subject to international on-site inspection, on a random-choice basis.

Finally, the broad United Kingdom approach, which would permit use of key precursors for legitimate purposes to continue unhampered, would be less disruptive to the chemical industry than the Soviet approach, which would prevent peaceful use of an entire class of compounds for which a number of beneficial applications are already apparent.

TOXICITY OF METHYLPHOSPHONATE NERVE AGENTS
AND THEIR ETHYLPHOSPHONATE ANALOGS

<u>Agent/Analog</u>	<u>LD</u> ₅₀	<u>Route of Administration</u>	<u>Test Animal</u>
GB	0.42 mg/kg	percutaneous	mouse
ethyl GB	0.69 mg/kg	percutaneous	mouse
VX	0.008 mg/kg	intravenous	rabbit
VX	0.028 mg/kg	intraperitoneal	rabbit
ethyl VX	0.013 mg/kg	intravenous	rabbit
ethyl VX	0.040 mg/kg	intraperitoneal	rabbit

CD/CW/WP.52
30 June 1983

Original: ENGLISH

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

UNITED STATES

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

Working Paper CD/353, submitted by the United Kingdom, outlines a pragmatic new approach to verifying that chemical weapons are not being produced in commercial chemical production facilities. Table 1 ("British Production of Key Precursors for Civil Uses") of that paper indicates that the number of companies in Britain which would be affected by the proposed on-site inspection provisions is small.

In order to facilitate assessment of the practicability of the British proposal, the United States delegation has compiled preliminary data on the number of United States companies which produce each type of key precursor. The data is tabulated below. The number of United States companies affected is only a tiny fraction of the hundreds of United States chemical companies; it may decrease as the data is further refined.

UNITED STATES PRODUCTION OF KEY PRECURSORS FOR CIVIL USES

<u>Key Precursors for Super-toxic Lethal Chemicals</u>	<u>Number of Companies in the United States producing these Precursors */</u>
Phosphorus trichloride (PCl ₃)	5
Phosphorus oxychloride (POCl ₃)	5
Chemicals containing the P-methyl and/or P-ethyl bond	5
Methyl and/or ethyl esters of phosphorous acid	2
3,3-dimethylbutanol-2 (pinacolyl alcohol)	0
N,N-disubstituted-β-amino ethanols	5
N,N-disubstituted-β-amino ethanethiols	1
N,N-disubstituted-β-amino ethyl halides	3
<u>Key Precursors for Other Super-toxic Chemicals</u>	
Phenyl, alkyl, or cycloalkyl-substituted glycolic acids	2
3- or 4-hydroxypiperdine and their derivatives	1

*/ In several cases, two listed chemicals are produced by one company. Thus, the total number of companies affected is less than the simple sum of the individual categories.

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

BULGARIA

Working Hypothesis on verification of destruction of declared stocks

1. Destruction of declared stocks shall be the subject of a permanent and continuous national verification and of a systematic international verification on an agreed basis.
2. The purposes of an inspection shall be to establish:
 - the type, purity and quantity of the destroyed chemical agent;
 - the fact of destruction.
3. For the purposes of acquiring exact and accurate information agreed chemical, biological, and physical methods shall be used.
4. The final results of an inspection shall consist of:
 - statistical data on destruction;
 - data on the ultimate products of destruction.

CD/CW/WF.54
12 July 1983

ENGLISH
Original: FRENCH

COMMITTEE ON DISARMAMENT
Ad Hoc Working Group on Chemical Weapons
Contact Group D

FRANCE

PRECURSORS - KEY PRECURSORS

The discussions that have been held on the definition of the terms precursors and key precursors as well as on the establishment of lists of precursors have brought out two different approaches:

The object of the first is to prevent any diversion of products to illegal purposes;

The second proposes the prohibition of the manufacture of an entire category of products, even for legitimate purposes.

The two approaches are equally inadequate, the first because it deals with only one aspect of the question, the second because it is too restrictive while at the same time neglecting an important aspect of the problem.

It is necessary to define the purpose to be served by the definition of precursors and the establishment of lists.

It is not a question of competing with the data banks of technical institutes but of drawing up documents which will make it possible to identify the purpose of certain products and to develop methods contributing to verification in two ways: verification of the destruction of stocks and verification of the non-production of toxic products for weapons purposes. These two aspects pose different problems and they should be dealt with separately and not together.

A. DECLARATION OF STOCKS - VERIFICATION OF DESTRUCTION

The case of "ordinary" chemical weapons has been debated at great length and it has been agreed that they should be destroyed or, exceptionally, reconverted. Thus the only things remaining to be discussed are the special problem posed by binary weapons and multi-component weapons, and the problem of stocks of chemical products intended exclusively for the manufacture of chemical warfare agents. What needs to be done is to define the criteria for deciding whether they should be destroyed or re-employed in civilian industry.

An illustrative list should be drawn up, and augmented as detailed declarations of stocks are made. In any event this list, which will take account only of weapons that exist or that may come into existence in the near future, should be relatively short.

These criteria and this list will be of assistance in the verification of the destruction of these particular stocks.

B. VERIFICATION OF NON-PRODUCTION

What this involves is tabulating a certain number of products or families of products which are or could be precursors of supertoxic warfare agents.

It is not possible to define precise criteria for the identification of these products, and the general purpose criterion would be difficult to apply in this instance. What will have to be done, therefore, is to draw up a list that is as exhaustive as possible but bearing in mind that this list should serve principally as a means of helping towards verification, and that such verification should not be an unbearable burden for national industries. This list will be much longer than the first one.

It should be borne in mind that if the illegal manufacture or the diversion of products takes place, that will usually be on the basis of perfectly legal factories openly manufacturing products intended for civilian uses and giving every appearance of honesty. It would therefore be advisable to think in terms of the verification of production facilities rather than the verification of this or that product.

The list of products drawn up would serve as a basis for each State party to the convention to declare all the factories capable of manufacturing these products or using them.

The methods for the supervision of these factories with a view to preventing the diversion or illegal manufacture of products should be defined. In any event, such supervision will not impose any excessive restriction on the civilian chemical industry, for it would seem, in fact, that there are barely more than 40 factories in the world whose products could be diverted for the purpose of manufacturing supertoxic chemicals.

Yugoslavia

CD/CW/WP.55

Working Paper on Some
Technical Aspects of
the Verification
Process in a Chemical
Weapons Convention

Also issued
as CD/393
13 July 1983

NOT REPRODUCED
(see WP volume)

CD/CW/WP.56	Draft Report of the <u>Ad Hoc</u>	16.8.83
and Rev. 1	Working Group on Chemical	22.8.83
and Add. 1	Weapons	16.8.83

NOT REPRODUCED

Committee on Disarmament

Ad Hoc Working Group on Chemical Weapons

United Kingdom of Great Britain and Northern Ireland

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

1. The United Kingdom delegation would like to thank CD delegations and non-member states who have responded to the request contained in its working paper CD/353 for information on the civil production of the key precursors listed in the annex to CD/353. To enable delegations to assess the scale of civil production of these substances a revised version of Table 1 of CD/353 is attached containing all the information received to date. It should be noted that Canada, Sweden, Italy and Norway have reported that they import some of the listed substances while having no home production.
2. The United Kingdom delegation hopes that during the recess between the 1983 and 1984 sessions of the Committee other delegations will also be able to produce information on their own production. As was suggested at the meeting of the Chemical Weapons Working Group on 29 June, if the number of plants were stated as well as companies this would:
 - (1) give a clearer picture of the number of locations needing to be monitored, since in some cases one company produces several of the substances at a single location
 - (2) help to avoid problems in relation to multinational companies, as the plant would be subject to the jurisdiction of the country in which it was located.
3. From the information received so far from delegations it appears that the civil uses of these substances are broadly those described in Table 2 of CD/353. In addition we have received information that N,N disubstituted amino ethanol has some civil uses as a pharmaceutical intermediate and as a polymerization activator.
4. It is perhaps too soon to draw any firm conclusions from the information so far received and from the discussion in the Working Group. Further consideration is clearly needed of this whole subject including in particular the contents of the list of key precursors. The following points which have arisen in the course of discussion in the Chemical Weapons Working Group should in the view of the United Kingdom delegation also be considered in further work on this subject within the Working Group or its Contact Groups:

- (a) what account should be taken of imports of listed substances?
- (b) at what level of production should the requirement for declaration and verification by random OSI become necessary?
- (c) what account should be taken of factories which are capable of producing listed substances, but which are currently producing others?

5. The United Kingdom delegation will take these points into account in its continuing consultations with its civil chemical industry, upon which it hopes to report further to the Committee early in its 1984 session.

REVISION OF TABLE 1 TO CD/353, INCORPORATING STATISTICS GIVEN BY OTHER CD MEMBERS
AND NON-MEMBER STATES ON PRODUCTION OF KEY PRECURSORS FOR CIVIL USES

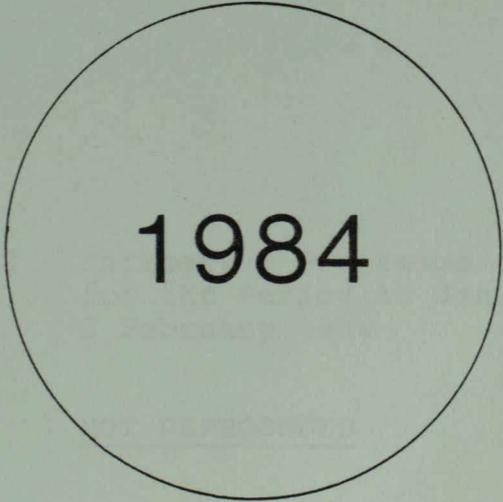
CD/CW/WP.57
[Annex to CD/353
Table 1 Revision 1]

	Number of Companies Producing These Precursors							United States
	United Kingdom	Canada	Italy	Japan	Norway†	Sweden	Switzerland	
<u>Key Precursors for Super-toxic Lethal Chemicals</u>								
Phosphorus trichloride (PCl ₃)	1	0	0	5 or 6	0	0	3	5
Phosphorus oxychloride (POCl ₃)	1	0	0	{ making both	0	0	2	5
Chemicals containing the P-methyl and/or P-Ethyl bond	2	0	0	some but number unknown	0	0	?	5
Methyl and/or Ethyl esters of phosphorus acid	1	0	0	?	0	0	?	2
3,3 Dimethylbutanol - 2 (pinacolyl alcohol)	0	0	0	?	0	0	?	0
N, N-Disubstituted β -aminoethanols	2	0	0	?	0	1	1	5
N, N-Disubstituted β -amino ethanethiols	0	0	0	?	0	0	?	1
N, N-Disubstituted β -aminoethyl halides (halide = Cl, Br, I)	1	0	0	?	0	0	?	3
<u>Key Precursors for other Super-toxic Chemicals</u>								
Phenyl, alkyl or cycloalkyl -substituted glycolic acids	0*	0	0	?	0	0*	?	2
3- or 4- hidroxy piperidine and their derivatives	0	0	0	?	0	0*	1	1

* Some small scale production for pharmaceutical purposes (less than one tonne p.a.)

? No precise details yet ascertained

† For details see CD/397



1984

CD/CW/WP.58 Indicative Programme of Work 18.1.84
for the Period 16 January -
3 February 1984

NOT REPRODUCED

COMMITTEE ON DISARMAMENT
Ad Hoc Working Group on Chemical Weapons

Key Precursors for Super-toxic Liquid Chemicals
THE NETHERLANDS

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

In working paper CD/355 the United Kingdom presented a survey of the British production and civil use of key precursors. It was suggested that other States would furnish corresponding data of the civil chemical industries. The survey indicates that the number of companies in Britain which produce any of these key precursors in quantities that are relevant in the context of a chemical weapon treaty is small.

In order to facilitate assessment of the practicability of the British proposal the Netherlands delegation has compiled preliminary data on the number of companies in the Netherlands which produce any of these precursors in quantities that are relevant in this context. As the attached list shows there are no such companies in the Netherlands. Some of these precursors however are produced in laboratory and pilot plant scale quantities. Besides that, almost 2,000 to 2,500 tons are imported and used by companies in the Netherlands. If at a later stage a refinement of the attached list would be helpful, the Netherlands delegation is willing to compile further data.

Some of these are produced in laboratory and pilot plant scale quantities.

ANNEX

NETHERLANDS PRODUCTION OF KEY PRECURSORS FOR CIVIL USES

<u>Key Precursors for Super-toxic Lethal Chemicals</u>	<u>Number of Companies in the Netherlands producing these Precursors in relevant quantities */</u>
Phosphorus trichloride (PCl ₃)	0
Phosphorus oxychloride (POCl ₃)	0
Chemicals containing the P-methyl and/or P-ethyl bond	0
Methyl and/or ethyl esters of phosphorous acid	0
3,3-dimethylbutanol-2 (pinacolyl alcohol)	0
N,N-disubstituted-B-amino ethanols	0
N,N-disubstituted-B-amino ethanethiols	0
N,N-disubstituted-B-amino ethyl halides	0
<u>Key Precursors for Other Super-toxic Chemicals</u>	
Phenyl, alkyl, or cycloalkyl-substituted glycolic acids	0
3- or 4-hydroxypiperdine and their derivates	0

*/ Some of these precursors are produced in laboratory and pilot plant scale quantities.

1960-1961

Verification of the
accuracy of the
financial reports

Also issued
in 1961
of 1960-61

and 1961-62
of 1961-62

Sweden

CD/CW/WP.60

Verification of the
Destruction of Stockpiles
of Chemical Weapons

Also issued
as CD/425
18 January 1984

NOT REPRODUCED
(see WP volume)

USA

CD/CW/WP.61

Verification of Chemical
Weapons Stockpile
Destruction

Also issued as
CD/424
20 January 1984

NOT REPRODUCED
(see WP volume)

Sweden

CD/CW/WP.62

The Prohibition of
Military Preparations
for Use of Chemical
Weapons

Also issued as
CD/426
23 January 1984

NOT REPRODUCED
(see WP volume)

CD/CW/WP.63
27 January 1984
ENGLISH
Original: FRENCH

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

Belgium

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

In document CD/353, the United Kingdom gave an outline of the civil production in that country of "key precursors" and super-toxic lethal chemicals and suggested that other States should provide similar information.

Belgium is now in a position to communicate to the Committee the preliminary results of a survey of its own chemical industry.

These show that there is no industrial production of key precursors in Belgium.

The Belgian industry does, however, import for the purposes of civil production various substances derived from key precursors, particularly phosphorus trichloride and phosphorus oxychloride.

The survey gives grounds for thinking that verification of civil production of key precursors would concern only a limited number of facilities throughout the world.

Annex

Belgium production of key precursors for civil purposes

	Number of facilities engaging in industrial production
Phosphorus trichloride	0
Phosphorus oxychloride	0
Chemicals containing the P-CH ₃ bond	0
Methyl or ethyl esters of phosphorus acid	0
Pinacolyl alcohol (3,3-dimethyl 2-butanol)	0
N, N-disubstituted β - aminoethanols	0
N, N-disubstituted β - amino ethanethiols	0
N, N-disubstituted β - aminoethyl halides	0
Phenyl, alkyl or cycloalkyl-substituted glycolic acids	0
3- or 4- hydroxypiperidine	0

Document ID: [illegible]

SECRET

Section 1: Introduction

The purpose of this document is to provide a comprehensive overview of the current state of the project. It details the objectives, scope, and key findings of the research conducted over the past six months. The information presented here is intended for internal use only and should be handled with the highest level of confidentiality.

The project was initiated in response to the need for a more efficient and secure data management system. The primary goal was to identify existing vulnerabilities and propose effective mitigation strategies. Through a series of rigorous tests and analyses, we have successfully identified several critical weaknesses in the current infrastructure.

Key findings include the discovery of a significant data leakage vulnerability, which could potentially expose sensitive information to unauthorized parties. Additionally, we have identified a complex security flaw that could allow an attacker to gain unauthorized access to the system's core components.

The following sections will provide a detailed breakdown of these findings, including the specific technical details of each vulnerability and the recommended remediation steps. It is imperative that these issues be addressed promptly to ensure the integrity and security of our data.

Section 2: Vulnerability Analysis

The first major vulnerability identified was a buffer overflow in the data processing module. This flaw occurs when the system receives input that exceeds the allocated memory buffer, leading to a crash or the execution of arbitrary code. This is a classic security issue that can be exploited to gain control over the system.

The second vulnerability was a cross-site scripting (XSS) attack vector. This allows an attacker to inject malicious scripts into the web application, which can then be executed in the browser of any user who visits the affected page. This poses a significant risk to user privacy and data security.

Finally, we discovered a weak password policy enforcement mechanism. The system currently allows for the use of simple, easily guessable passwords, which significantly increases the risk of unauthorized access. Strengthening the password requirements is a critical step in improving the overall security posture.

Section 3: Remediation Recommendations

To address the identified vulnerabilities, the following remediation actions are recommended:

- Implement input validation and sanitization to prevent buffer overflow attacks.
- Apply security patches and updates to the affected software components.
- Strengthen the password policy to require longer, more complex passwords.
- Conduct a thorough security audit of the entire system to identify any other potential weaknesses.

It is strongly advised that these remediation steps be implemented as a matter of priority. Regular security assessments and updates should be conducted to maintain the system's resilience against emerging threats.

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

FINLAND

On instrumental monitoring of incineration of CW agents1. Introduction

Discussions at the CD have shown the crucial importance of verification of the destruction of chemical munitions and agents for the bringing about of a comprehensive ban on the development, production and stockpiling of chemical weapons. Different views have been presented on the methods of such verification, needs of its continuity, its quantitiveness etc.

We have made a preliminary study of the possibility of carrying out continuous automatic monitoring of the most crucial phase of destruction, the incineration of chemical agents, by tamper proof "black box" type instruments and the required characteristics and availability of the instruments for this purpose. The description of the incineration facility in this paper is quite schematic and only aimed to serve the purpose of showing at which points monitoring instruments might most practically be used.

2. Structure and composition of the material to be destroyed

The CW agents are stockpiled in different forms. One part is in munitions: rockets, shells, mines etc., another in bulk containers. The state of the stockpiles is not always precisely known. The agents may have undergone partial destruction, the containers or shells may leak and so on. A chemical agent can be incinerated in situ, without first draining it from the munition, or by first draining it to a bulk container from which it is injected to the incinerator. This paper only deals with the latter case. The containers have to be incinerated separately and monitored by different methods which we do not discuss in this paper.

3. Requirements for comprehensive "Black box" monitoring

Comprehensive "black box" monitoring means that the incineration process is monitored in an unambiguous way by automatic recording instruments which are guaranteed tamper-free by containment, seals etc. In this paper the requirements of such monitoring techniques and some problems caused by the automation are discussed. The following requirements have to be met:

(a) The monitoring system must produce such qualitative and quantitative information that the functioning of the incineration facility can be reconstructed on the basis of this information,

(b) The monitoring system must be able to work long periods - e.g. weeks or months - truly automatically, i.e. without servicing, calibration, tuning etc.,

(c) The information produced by the monitoring system must be reliable, i.e. there must exist no possibility of its falsification.

Because the monitoring system must produce detailed quantitative information on chemical compounds, sophisticated analytical instruments in a process monitoring mode are required, e.g. GC, LC, MS. Presently the available instruments can work reliably a few weeks. Thus, the monitoring system must tune and calibrate itself and alarm if something goes wrong. Service personnel must then service the instrument. Provisions for tamper-free containment and long time automatic functioning must be included already at the planning stage of the facility.

Definition of the incinerator

In the following presentation the analytical instrumentation needed for the control of the chemical agent incinerator presented in Figure 1 is evaluated.

4. Sensors suitable for the control of destruction of chemical agents in an incinerator plant

Sensors can be divided into two categories, chemical and physical ones. Chemical sensors produce detailed data about the chemical nature of the material flow in the incinerator unit, and physical sensors produce data about the physical state of the plant and the objects and/or agents to be destroyed.

Flow meters and pressure gauges monitor all the material flow in and out of the incinerator unit, while the temperature of the incinerator oven is recorded by a thermometer. In addition, cameras control both the general state of the plant and, eventually, each monitoring instrument.

All the essential material flows (the agent material to be destroyed, the exhaust gases and the brine that has been formed in the washing process of the exhaust gases) are monitored by chemical-analytical instruments capable of producing both qualitative and quantitative data about the chemical composition of the material. The general requirements for these sensors are:

- they should be in a tamper-free container
- they should be completely controlled by a tamper-proof central computer
- they should produce digital data
- they should be self-calibrating
- they should have in-built failure diagnostics
- they should be capable of informing the central computer about failures

The characteristics of the chemical sensors

(a) Sensor for analysing the in-flow

The agent to be destroyed is often a part of a more or less complex mixture. Therefore the sensor used for monitoring the in-flow must be selective enough to be able to identify and quantitate the chemical agents. Since most of the chemical agents are volatile, the substances to be destroyed could in most cases be analysed by a gas chromatograph.

Technical description of a gas chromatographic sensor suitable for this task is:

- the gas chromatograph equipped with two columns of different polarities, two FID detectors and a data logging unit;
- an automatic sampling unit capable of handling fluid samples (sampling, dilution, addition of standards and injection);
- the sensor system must be comprised of two completely independent sampler and gas chromatograph units for redundancy;
- sensor produces two digitized chromatograms per unit out of each measurement;
- probable working interval without maintenance more than one week;
- approximate price \$40,000/unit.

(b) Sensor for analysing the brine

The brine formed in washing the exhaust gases consists of inorganic ions, which can be analysed both qualitatively and quantitatively using an ion chromatograph.

Technical description of an ion chromatographic sensor:

- an ion chromatograph equipped with a set of columns suitable for analysing anions, and a data logging unit;
- an automatic sampling unit (sample dilution);
- the sensor system must comprise two completely independent sampler and ion chromatograph units for redundancy;
- sensor produces one digitized chromatogram per unit out of each measurement;
- probable working interval without maintenance is several weeks;
- approximate price \$40,000/unit.

(c) Sensor for analysing the exhaust gases

The washed exhaust gases consist of permanent gases, which could be analysed on line with a process mass spectrometer. Another possibility could be a process gas chromatograph. If any organic residues escape the incineration they must be analysed after preconcentration.

Technical description of a mass spectrometric sensor:

- a process mass spectrometer equipped with an electron impact ionization source and a spare filament;
- an automatic sampling unit for gaseous samples;

- sensor produces digitized mass spectra of the exhaust gas mixture;
- probable working interval without maintenance is several weeks;
- approximate price \$100,000.

The instrumentation described in paragraphs (a) - (c) is commercially available and can be used for the present purpose after some modifications.

5. Systems control

Systems control could be achieved by a computer connected to the system. Computer's tasks are: instrument control, collection of raw data, analysis of data, data storage and data transfer.

The timing of the measurements could be done, e.g., according to a random number sequence in order that the sampling time could not be known by outsiders. The measurements for in- and out-flows could be performed in a synchronized manner to facilitate the quantitation of the process. The sequence of measurements for the physical sensors could be, e.g., 10-100 times per day and for the chemical sensors 5 - 15 times per day. The control of the sensors should also follow the failure diagnostics of each instrument, and it should give an alarm when a failure is noticed.

The raw data reported by the sensors to the central computer could be collected into a library together with the time of the measurement.

The gas chromatographic data could be analysed both qualitatively and quantitatively by a two-channel retention index monitoring technique. The ion chromatographic data would give qualitative and quantitative information of the used washing brine. The mass spectra would give information about the composition and relative quantities of the exhaust gases. After each series of measurements the central computer could decide whether the plant is functioning properly.

All data could be stored into the mass memory of the central computer, from where it could be transferred to the central laboratory of the treaty organization. Data transfer could be achieved both on-line (for instance through telephone network or by radio via a satellite) and off-line as courier mail in a suitable magnetic media.

The computer system could physically comprise two minicomputers with a real-time operating system. The application programmes must be tailor-made for the present purpose.

Technical description of the computer system:

- central processing unit with sufficient amount of main memory;
- two types of mass storages:
 - Winchester-type disc memory for operation and magnetic tape memory for measurement back-ups and off-line data transfer;
- suitable communication system for data collection and instrument control;

- the computer system must comprise two completely independent units;
- approximate price \$50,000/unit (without application programmes).

6. The need for maintenance

The complex nature of the proposed system requires that service personnel can respond to the failure alarms without delay. On the other hand changes in the destruction process, for instance changing of the agent to be destroyed, could also lead to a need to retune the sensors and to change the reference library in the central computer. There may also be phases in the data transfer that could not be automated.

7. Alternatives for a completely automatic control

With the present state of the art of instrumentation it might be difficult to build a system of completely automatic control of a destruction plant. Therefore, alternative procedures for control are proposed:

- (a) The requirements for the perfectness of automatic control are made less strict;
- (b) The data provided by the instrumentation is confirmed by on-site visits;
- (c) Permanent presence of research and/or service personnel of the treaty organization at the plant is approved;
- (d) Instruments capable only of confirming that the plant is running normally are used for monitoring (for instance cameras);
- (e) Different combinations of the proposed procedures.

8. Summary

A system for comprehensive instrumental verification of the destruction of chemical agents by incineration has been described. This paper is primarily intended as a basis for discussion. The description of the incinerator is only schematic. The instruments described are commercially available, but the automatic sampling and application programmes have to be developed. The total cost of the verification system including software will be considerably higher than the sum total of the instruments described.

COMMITTEE ON DISARMAMENT
Ad Hoc Working Group on Chemical Weapons

FRANCE

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

In document CD/353, the United Kingdom proposed an approach for verifying that some chemicals, the key precursors, produced in commercial facilities of the chemical industry are not being diverted for hostile purposes. At the same time the United Kingdom drew up a list of companies for which on-site inspections could be carried out. A good many countries have also provided information of a similar kind showing that the number of companies to be monitored at the present stage of the definition of key precursors remains small.

As a contribution to this joint survey at which the British proposal is aimed, the French delegation has compiled some preliminary data concerning the French companies producing and marketing the chemicals classed as "key precursors". These data are given in the following table.

<u>Key Precursors for super-toxic lethal chemicals</u>	<u>Number of companies in France producing and marketing these precursors</u>
Phosphorus trichloride (PCl ₃)	1
Phosphorus oxychloride (POCl ₃)	1
Chemicals containing the P-methyl and/or P-ethyl bond	0
Methyl and/or ethyl esters of phosphorous acid	0
Pinacolyl alcohol	0
N.N disubstituted β - amino ethanol	0
N.N disubstituted β - amino ethane thiol	0
N.N disubstituted β - amino ethyl halides	0
<u>Key Precursors for other super-toxic chemicals</u>	
Phenyl, alkyl or cycloalkyl substituted glycolic acid	0
3- or 4-hydroxy piperidine and their derivatives	0

COMMITTEE ON DISARMAMENT

Ad Hoc Working Group on Chemical Weapons

FRANCE

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Pinacolyl alcohol	0
N.N disubstituted β - amino ethanol	0
N.N disubstituted β - amino ethane thiol	0
N.N disubstituted β - amino ethyl halides	0
<u>Key Precursors for other super-toxic chemicals</u>	
Phenyl, alkyl or cycloalkyl substituted glycolic acid	0
3- or 4-hydroxy piperidine and their derivatives	0

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Final Report on the
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1978

FOR INFORMATION

CD/CW/WP.66

Draft Report on the
Ad Hoc Working Group on
Chemical Weapons on the
Work During the Period
16 January - 6 February
1984

6.2.84

NOT REPRODUCED

1930
The following is a list of the
members of the Group on
the subject of the
work done during the
period 1929-1930.

MEMBERS

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CONFERENCE ON DISARMAMENT

CD/CW/WP.67
28 February 1984

Original: ENGLISH

Chairman's suggestion for a Working Structure for the negotiations on a Chemical Weapons Convention

Content

In order to facilitate the negotiations on a chemical weapons convention an edited version of CD/416, Annex I^{1/} is provided by the Chairman in the Annex of the present document.

Editing rules

The editing of Annex I of CD/416 has been done with the following considerations in mind:

No changes have been made in the text. Enumerations of the different parts moved from their original places may have been deleted.

In the margin is referred to the page in the English version of CD/416, Annex I, where the subsequent text occurred.

Headings of chapters may be new or repeat headings occurring in CD/416.

The arrangement of tentatively agreed parts and suggested alternatives and additions follows the same rules as in CD/416, Annex I. However, alternatives (or) and additions (and), in addition to being indented, have also been framed in order to facilitate the differentiation between agreed and non-agreed parts of the text. If any misinterpretation occurs due to the editorial rearrangement it is unintentional and should be corrected, or discussed further, in case the ambiguity is inherent from the previous text, CD/416. This is particularly so with respect to the alternatives regarding on-site inspection on page 22, which were not indented in CD/416, where they appeared as tentative definitions. Where indentations have been changed by the Chairman the pertinent places have been indicated by "Indentation corrected".

^{1/} Report of the Ad Hoc Working Group on Chemical Weapons to the Committee on Disarmament.

The main headings for parts, which cover a subject coherently, are given also in the preceding list of contents. The subjects are placed in what appears to the Chairman as a logical order. The different main subjects have tentatively been given the same level of importance. However, the detailed structure of a final convention should be discussed separately.

Main undertakings, detailed undertakings, and pertinent verification or other measures of compliance, have been put together under the subject, in order to allow an easy over-view of a whole subject as a basis for the negotiations in that area.

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PREAMBLE

Reference to
page in Annex I
to CD/416

Preamble

21

1. An understanding that the Convention will not limit or detract from obligations assumed under other Treaties including:

(a) the 1925 Protocol for the Prohibition of Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare;

(b) The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction;

and (c) The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques.

PURPOSE AND COMMITMENTS

Purpose and Commitments

1 General Purpose of the Convention

An undertaking to ban chemical weapons

Basic Undertakings

(a) An undertaking not to develop, produce, otherwise acquire, stockpile, retain or transfer chemical weapons.

(b) An undertaking:

To exclude through the implementation of the provisions of the Convention, which complement the prohibitions of the 1925 Geneva Protocol, the use of chemical weapons in any armed conflict.

or not to use chemical weapons in any armed conflict

or not to use chemical weapons in any circumstances

or to observe, by States not parties to the Geneva Protocol on the prohibition of the use of chemical weapons the terms of its provisions, and to recall, by States parties to the Protocol, their commitments under it.

1 (c) An undertaking to eliminate^{x/} existing stockpiles of chemical weapons.

(d) An undertaking to eliminate^{x/} existing facilities for the production of chemical weapons.

(e) An undertaking not to assist, encourage or induce anyone to engage in activities prohibited by the Convention.

and An undertaking not to engage in any military preparations to use chemical weapons.

x/ As indicated on pages 9 and 12 (in this document on pages 6 and 10)

DEFINITIONS AND CRITERIA

Definitions and Criteria

2

Definitions

An understanding that, in accordance with the general purpose criterion of the Convention

(a) Chemical weapons means:

(i) super-toxic lethal, other lethal, or other harmful chemicals, and their precursors, regardless of the method of production, except for those intended for permitted purposes as long as the types and quantities involved are consistent with such purposes

or chemical warfare agents and their precursors;

indentation corrected (ii) munitions or devices specifically designed to cause death or other harm through the toxic properties or chemicals released as a result of the employment of such munitions or devices; or

indentation corrected (iii) any equipment

and or chemical

indentation corrected specifically designed for use directly in connection with the employment of such munitions or devices.

and (b) Chemical warfare agents means:
e.g. toxic chemical substances whose types and quantities accord with hostile and military purposes and whose toxic effects are used to interfere directly with the normal functions of man, animals and plants in such a way as to lead them to death, temporary incapacitation, permanent injury, damage, and for the purposes of the Convention, chemical warfare agents can be divided into three categories, super-toxic lethal, other lethal, and other harmful chemicals.

3

(c) Permitted purposes means:

- (i) non-hostile purposes, that is, industrial, agricultural, research, medical, law enforcement, or other peaceful purposes, or protective purposes; and
- (ii) military purposes which are not related to the use of chemical weapons.

and (d) Protective purposes means:

purposes directly related to protection against chemical weapons.

(e) Production facility means:

any building or equipment which in any degree was designed, constructed or used for the production of any chemicals, including key precursors, primarily useful for chemical weapons, or designed, constructed or used for filling chemical weapons.

or (to be determined)

(f) Precursor means:

a chemical that by any reaction takes part in the production of a toxic end product,^{x/} which for the purposes of the Convention is defined as a chemical in accordance with the general purpose criterion.

3

(g) Key precursor means:

a precursor which plays a most important role in the production of, or in determining the characteristics of the end product^{x/} and has little peaceful use.^{1/}

and and used at the last stage of the synthesis.

^{x/} Or, possibly, chemical warfare agent (to be determined, see page 2, in this document on pages 3 and 4).

^{1/} As determined in an annex to the Convention referred to below indicating the criteria for inclusion and measures for ensuring compliance with the Convention.

4

Toxicity criteria

An understanding that for the purpose of classifying chemicals according to their toxicity the following criteria apply:^{2/}

- (a) a "super-toxic lethal chemical" has a median lethal dose which is less than or equal to 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation);
- (b) an "other lethal chemical" has a median lethal dose which is greater than 0.5 mg/kg (subcutaneous administration) or 2,000 mg-min/m³ (by inhalation) and less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation); and
- (c) an "other harmful chemical" has a median lethal dose which is greater than 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation).

^{2/} When measured by an agreed method set forth in an annex to the Convention.

ELIMINATION OF STOCKPILES

9

Elimination of stocks

(a) An undertaking to eliminate as rapidly as possible all stocks of chemical weapons,

and including old stocks found after the initial declaration,
by destruction
or by destruction or diversion to permitted purposes

following non-reversible procedures which will allow systematic international on-site inspection and in accordance with a schedule^{6/} which will maintain a balance of security during the entire elimination stage, with commencement within

6 months and completion within 10 years
or 6 months in regard to binary and multicomponent chemical weapons only and completion of the operation within 2 years and commencement within 2 years in regard to all other chemical weapons and completion within 10 years after entry into force of the Convention

Non-removal of stocks

7

(b) An undertaking not to move chemical weapons stocks from present locations after entry into force or adherence to the Convention except for purposes of elimination or for protective purposes

and other permitted purposes.

20

Protection of population and environment

An undertaking to protect the population and the environment in fulfilling the obligations connected with the elimination of stocks of chemical weapons and production facilities.

^{6/} To be agreed and set forth in an annex to the Convention.

Initial declarations^{5/}

- 6 (a) An undertaking to submit initial declarations to the Consultative Committee:
- (i) not later than 30 days after entry into force or adherence to the Convention;
 - (ii) stating the possession or non-possession of any chemical weapons regardless of the quantity or location;
 - (iii) stating the presence of stocks of chemical weapons which are under the jurisdiction or control of someone else;
 - (iv) stating the composition of all stocks of chemical weapons; all chemicals, including precursors comprised in such stocks, should be declared by their chemical names, toxicities, where applicable, and weights in metric tons in bulk and filled into munitions; munitions should be declared by types, calibres, quantities and chemical fill; devices and "specifically designed" equipment should be declared,

7

and by type and quantity, and for devices, also by size and chemical fill,
and declaration of locations of all stockpiles and composition of the stocks at each location;

- 8 (c) An undertaking to submit to the Consultative Committee

30 days
or 6 months

after entry into force or adherence to the Convention, initial plans for the elimination of all stocks of chemical weapons including type of operation, schedules with respect to quantities and types of chemical weapons to be destroyed, and products; and

^{5/} On the basis of the provisions of the Convention and in accordance with procedures established by the Consultative Committee (note that this foot-note applies to all declarations and reports referred to in this record).

simultaneously
or just before entry into operation

locations of destruction plants to be used

(e) An undertaking to submit to the Consultative Committee

annually
or 3 months before the implementation of each stage

detailed plans for elimination of stocks of chemical weapons during the next

year
or stage.

(d) An undertaking to submit to the Consultative Committee

annual
or periodic

reports of progress on implementation of plans for the elimination of stocks of chemical weapons.

8 (f) An undertaking to notify the Consultative Committee of the elimination of chemical weapons within 30 days of the completion of their elimination.

New Verification measures

7 (b) An undertaking to submit the initial declarations of stocks of chemical weapons to verification by means of

systematic international on-site inspection on an immediate basis
or on a quota basis for those stocks stored at specialized facilities for the destruction of stocks
or challenge procedure

7 (a) An undertaking to submit declared stocks to verification between the initial declarations and commencement of elimination by

continuous monitoring with on-site instruments and systematic international on-site inspection on a periodic basis

- or on a quota basis for those stocks stored at specialized facilities for the destruction of stocks
- or challenge procedure

10 (b) An undertaking to submit the elimination of stocks of chemical weapons to systematic international verification by continuous on-site monitoring with instruments, and by systematic international on-site inspection

on a continuous basis

- or on a quota basis

Old stocks

8 and (g) An undertaking to submit notifications to the Consultative Committee concerning old stocks found after the initial declaration, as to

- 9
- (i) within 30 days, the estimated quantity and type, how, where and when they were found, why they were previously unknown, and where they are stored;
 - (ii) within 90 days, the exact quantity and type, including the chemical names, formulae and quantities of the chemicals found, and plans for their elimination, and
 - (iii) within 30 days after completion, certification of elimination.

and (h) An undertaking to accept international control of stocks until their final elimination;

ELIMINATION OF FACILITIES

12

Elimination of Production Facilities

(a) An undertaking to eliminate all production facilities, including any facilities temporarily converted for the destruction of stocks of chemical weapons, by

razing them
or destroying or dismantling them

13

employing procedures which permit verification and in accordance with a schedule^{1/} which will maintain a balance of security during the entire elimination stage, with commencement within

6 months and completion within 10 years
or 6 months in regard to facilities producing binary weapons with completion of elimination within 2 years; and commencement within 8 years in regard to the facilities producing all other chemical weapons and completion within 10 years.

11

Cessation of production activities

(a) An undertaking at entry into force or adherence to the Convention to cease all activities at any production facility except those required for closure and elimination or conversion to the destruction of chemical weapons stocks, and to close each facility in a manner which will render it inoperative in a verifiable way.

Non-construction and non-conversion of production facilities

11

(b) An undertaking at entry into force or adherence to the Convention not to undertake construction of any new production facilities or the conversion of any other existing facilities for purposes of producing chemical weapons.

10

Initial Declaration

(a) An undertaking to submit declarations to the Consultative Committee not later than 30 days after entry into force or adherence to the Convention

^{1/} To be agreed and set forth in an annex to the Convention.

- (i) stating the possession or non-possession of capacities for production of chemical weapons, the capacities themselves, and stating the presence or non-presence of production facilities and their capacities under the jurisdiction or control of someone else;
- or stating whether or not any production facility is under its jurisdiction or control; stating the presence on its territory of any production facility, which is under the jurisdiction or control of anyone else and the location of any such facility; and stating the location, nature, capacity, types of products and chemical names of products for any production facility which has been under its jurisdiction or control at any time since

- (ii) certifying that all production or filling in facilities possessed or present has ceased.

21

and 2. An undertaking to declare, within 30 days of entry into force or adherence to the Convention, the location and nature of any facility under jurisdiction or control designed, constructed or used since for the development of chemical weapons.

Submissions of plans and notifications

- (d) An undertaking to submit to the Consultative Committee plans for

the closing and destruction of all production facilities, 30 days after entry into force or adherence to the Convention

or the elimination of each plant, one year before the commencement of its elimination, and its location.

12

(f) An undertaking to submit to the Consultative Committee

annually, detailed plans concerning elimination of production facilities for the next year
or 3 months before the implementation of each stage, notifications concerning elimination of production facilities, including their location, for the next stage.

11

(e) An undertaking to submit to the Consultative Committee

annual
or periodic

reports of progress on implementation of plans for the elimination of production facilities.

12

(g) An undertaking to certify to the Consultative Committee within 30 days that the elimination of production facilities has been completed.

12

(h) An undertaking to submit to the Consultative Committee

within 30 days of entry into force or adherence to the convention
or within the time period provided for in the plan for the destruction of stocks

plans for the temporary conversion of any production facility for the destruction of stocks of chemical weapons, including its location.

(i) An undertaking to notify the Consultative Committee within 30 days that the destruction of stocks of chemical weapons in a temporarily converted production facility has been completed.

Verification measures

10

and (b) An undertaking to submit the initial declaration of production facilities to verification by
systematic international on-site inspection on an immediate basis
or challenge procedure.

- 11 (c) An undertaking to submit the inactive status of production facilities to verification between the declaration of their location and commencement of elimination by

continuous monitoring with on-site automatic instruments and systematic international on-site inspection on a periodic basis,
or challenge procedure.

- 13 (b) An undertaking to submit the elimination of each production facility to verification by

systematic international on-site inspections, of each facility at an agreed level
or challenge procedure.

Future Chemical Weapons Non-Production Verification

An undertaking to submit the non-production of chemicals for use in chemical weapons to systematic international verification in addition to the use of a challenge procedure, by 3/:

1. Super-toxic Lethal Chemicals

- (a) a limitation to an amount which is the lowest possible and in any case does not exceed one metric ton of the aggregate quantity of super-toxic lethal chemicals

and their key precursors

produced, diverted from stocks, or otherwise acquired annually or possessed at any one time

for protective purposes
or for all permitted purposes.

- 14 (b) a limitation of the production of these chemicals to a single small scale facility having a capacity limit of

3/ In accordance with procedures set forth in an annex and on the basis of lists of chemicals, including those of particular risk, to be determined by the Consultative Committee following agreed criteria.

14

- (c) a notification to the Consultative Committee of the location and capacity of the small-scale production facility within 30 days after entry into force or adherence to the Convention, or when constructed later, days before the date of commencement of operations;
- (d) monitoring of the small scale production facility by annual data reporting with justification, on-site instruments, and systematic international on-site inspection

on an agreed level
or on a quota basis
and 2. a prohibition of the production of compounds with methyl-phosphorus bond in commercial production facilities and to restrict such production to the single small-scale facility.

14 3. Other Lethal and Other Harmful Chemicals

- (a) monitoring of production and use by annual data reporting;

and (b) a declaration to the Consultative Committee of the location of facilities for the production of certain other lethal and other harmful chemicals deemed to pose a particular risk.

4. Key precursors

- (a) Monitoring by annual data reporting of production and use

and and declaration to the Consultative Committee of the location of facilities for the production of key precursors;
and and systematic international on-site inspection on a random basis.

RESTRICTIONS ON ACQUISITION AND TRANSFER

Cessation of acquisition and transfer

(An undertaking to submit initial declarations to the Consultative Committee)

7 (v) certifying that the acquisition or transfer of chemical weapons

along with any assistance
or including technological equipment for the production of
 chemical weapons and relevant technical documentation

has ceased.

Permitted Transfers

15 1. Transfer for Elimination purposes

(a) An understanding that, by mutual agreement, chemical weapons may be transferred between parties for purposes of elimination.

(b) An understanding that all declaration and verification provisions normally applicable to the elimination of stocks of chemical weapons will also apply to stocks transferred for purposes of elimination with an additional notification to the Consultative Committee immediately before commencement of the transfer.

15 2. Transfer for other purposes

(a) An undertaking not to transfer super-toxic lethal chemicals and their key precursors to non-parties;

(b) An understanding to limit transfer to another party of super-toxic lethal chemicals

and and of their key precursors
 for permitted purposes
or for protective purposes

to a maximum of

100 grams

or

in any 12 month period

(c) An undertaking by both parties to submit an advance report to the Consultative Committee for each transfer and an annual summary report of all transfers including in both the chemical names, weights and destination.

MEASURES FOR COMPLIANCE

18

Bilateral Consultative Process

- (a) An undertaking to consult and co-operate, directly or through appropriate procedures, including the services of appropriate international organizations and of the Consultative Committee in any matter related to the implementation of the Convention, and to endeavour to clarify and resolve, through bilateral consultation, any situation which may give cause to doubts about compliance with the Convention, or which gives rise to concerns about a related situation which may be considered ambiguous.
- (b) An undertaking to provide information to assure compliance with the provisions of the Convention.

Compliance

4

1. National Implementation Measures

An undertaking to adopt measures in accordance with constitutional processes to implement the Convention, to monitor compliance with it, and to prohibit or prevent any activity under national jurisdiction or control in violation of it.

2. National Technical Means

An understanding that technical procedures for collecting information on compliance that are under national control will be utilized in a manner consistent with generally recognized principles of international law.

5 3. Systematic International Procedures

An undertaking to ensure systematic verification of compliance with the provisions of the Convention by:

5

(a) data reporting

the provision of data on production and use and other information to the Consultative Committee on a periodic basis; and^{3/}

(b) on-site inspections

on-site monitoring utilizing automatic instruments and/or mandatory inspections by an international inspectorate^{4/}

^{3/} In accordance with declarations referred to below and lists of chemicals set forth in annexes to the Convention that will be subject to revision by the Consultative Committee.

^{4/} On the basis of agreed procedures set forth in an annex to the Convention.

- (i) "on an immediate basis", i.e. involving the presence of inspectors as soon as feasible,
- (ii) "on a continuous basis", i.e. involving the presence of inspectors at all times during an operation,
- (iii) "on a periodic basis", i.e. involving regular visits to an operation at fixed intervals as established by the Consultative Committee,
- (iv) "on a quota basis", i.e. involving an agreed number of regular visits to be determined by the Consultative Committee on the basis of agreed criteria and data communicated by States,
- (v) "on a random basis", i.e. involving an agreed number of visits which follow an irregular pattern with limited advanced warning,
- (vi) on any other agreed basis arranged bilaterally or by the Consultative Committee

6

Challenge Procedure

An undertaking to ensure non-routine verification of compliance with the provisions of the Convention by the application of fact-finding procedures including on-site inspection

on a voluntary basis
or on the basis of a stringent obligation to permit such inspection

arranged bilaterally or by a justified request to the Consultative Committee

16

National Means for Implementation

1. National Implementation Measures

- (a) An undertaking to adopt measures necessary in accordance with constitutional processes to implement the Convention, and in particular to prohibit and prevent any activity in violation of the Convention anywhere under national jurisdiction or control.
- (b) An undertaking to submit to the Consultative Committee information concerning the legislative and administrative measures taken.

2. Responsibilities

(a) An undertaking to provide, through any national organization or authority assigned to implement the Convention, assistance to the Consultative Committee including data reporting, assistance for international on-site inspections and a prompt response to all requests for the provision of expertise, information and laboratory support.

and (b) An undertaking to co-operate fully with the Consultative Committee in the exercise of its verification activities and not to interfere in any manner with the conduct of legitimate verification activities.

16

National Technical Means

An understanding that national technical means may be utilized to collect information on compliance, that such means will not be interfered with, and that any State party that possesses national technical means of verification may place the information at the disposal of other parties.

17

or An understanding that where national technical means are utilized to collect information on compliance, and not interfered with, that all parties shall have access to such information.

or No provision

International Means for Implementation

1. Depository

To be determined.

2. Preparatory Commission

An undertaking to establish a Preparatory Commission composed of representatives of all signatory States to convene after the Convention is open for signature for the purpose of carrying out the necessary preparations for the entry into force of the provisions of the Convention and to prepare for the establishment of the Consultative Committee.^{10/}

^{10/} In accordance with guidelines set forth in an annex to the Convention.

17. 3. Consultative Committee

- (a) An undertaking to establish a Consultative Committee^{11/} composed of representatives of all States Parties, which shall convene not later than 30 days after entry into force of the Convention, to carry out broad international consultations and co-operation among States Parties, to oversee the implementation of the Convention and to promote the verification of continued compliance by performing scientific and technical review functions and by providing a forum for discussion of any problem related to the implementation of the Convention.

and to decide on practical measures to be taken by parties to the Convention in case of violation

- 18 (b) An undertaking to meet in regular sessions of the Consultative Committee every years, and to hold extraordinary sessions at the request of any State Party of the Executive Council.
- (c) An undertaking to establish an Executive Council composed of representative of States Parties appointed by the Consultative Committee as well as a Technical Secretariat and other subsidiary bodies as necessary.
- (d) An understanding that the Executive Council will carry out the functions of the Consultative Committee when it is not in session and will also be responsible for receiving and disseminating data and information, receiving requests on challenge procedures and deciding on specific action to be taken, and overseeing systematic on-site inspections.
- (e) An understanding that the Technical Secretariat will provide administrative support to the Executive Council and the Consultative Committee and will render technical assistance to States Parties and the Executive Council.

^{11/} In accordance with specifications, organization and functions set forth in an annex to the Convention.

International Consultative Procedures

- (a) An undertaking to co-operate fully with the Consultative Committee and its subsidiary organs and/or international organizations, which may, as appropriate, give scientific, technical and administrative support to the Consultative Committee in order to facilitate fact-finding activities so as to ensure the speedy clarification of the situation which gave rise to the original request.^{12/}
- (b) An understanding that at any time a request may be submitted to the Consultative Committee or its appropriate subsidiary body to carry out a challenge procedure to clarify and resolve any situation considered to be ambiguous or which gives rise to suspicion about actions in breach of obligations deriving from the provisions of the Convention.^{13/}

- (c) An undertaking to treat favourably and in good faith a request for an on-site inspection by the Consultative Committee or its appropriate subsidiary body, and to submit a prompt and full explanation for the reasons for a refusal, which should be considered an exceptional response.
- or An undertaking to treat favourably and in good faith a request for an on-site inspection by the Consultative Committee or its appropriate subsidiary organ. A refusal should be accompanied by the submission of a prompt and full explanation of its reasons. The Consultative Committee shall assess the explanation submitted and may send another request, taking into account all relevant elements including possible new elements received by the Consultative Committee after the original request. If a second request is refused, recourse may be had to appropriate procedures under the Charter of the United Nations.

^{12/} In accordance with procedures set forth in an annex to the Convention.

^{13/} In accordance with detailed procedures to be agreed and set forth in an annex to the Convention.

United Nations

(a) An understanding that parties will retain at all times their ability to take whatever action they deem necessary within the framework of the Convention or the Charter of the United Nations to resolve differences concerning the application of the Convention.

and (b) An undertaking to co-operate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Security Council which shall inform the parties to the Convention of the result of the investigation.

OTHER PROVISIONS FOR VERIFICATION, CO-OPERATION AND
CONFIDENCE BUILDING

15

Verification of the Prohibition of Use

An understanding that provisions for international verification by means of a challenge procedure^{9/} shall apply equally to complaints of the use of chemical weapons

20

3. Assistance

(a) An undertaking to provide assistance and support the provision of assistance to a party to the Convention threatened or adversely affected as a result of the violation of the provisions of the Convention.

and (b) An undertaking to provide assistance or support being provided in accordance with the Charter of the United Nations to any party to the Convention which has requested such assistance and which the Security Council decides has been exposed or is possibly being exposed to danger as a result of a violation of obligations assumed under the Convention by another party to it.

20

Promotion of Development Goals

An undertaking to facilitate the creation of favourable conditions for the economic and technical development and for international co-operation in the field of peaceful chemical activities while precluding interference with areas of activity unrelated to the purposes of the Convention.

^{9/} - On the basis of procedures to be agreed and set forth in an annex.

or An undertaking to avoid hampering the economic or technological development of States Parties to the Convention or international co-operation in the field of peaceful and protective chemical activities, including the international exchange of chemicals and equipment for the production, processing or use of chemicals for peaceful and protective purposes.

OTHER PROVISIONS

21

Withdrawal

An understanding that withdrawal may be exercised if extraordinary events related to the subject matter of the Convention have jeopardized the supreme interests of a State. Notice of withdrawal will be given three months in advance including a statement of the extraordinary events.

... in understanding to provide assistance or support being provided to... the Charter of the United Nations to any party to the Convention which... assistance and which... obligations... party

Function of Development

... understanding to facilitate the creation of favorable conditions for the economic and technical development and for international co-operation in... chemical activities... of activity unrelated to the purposes of the Convention.

... on the basis of proposals to be agreed and set forth in an annex.

Proposals on Major
Financial Policy
Conversion of the
Company Securities and
their distribution by
physical support

Page 1
of 10
8 pages

NOT RECORDED
(100-100000)

China

CD/CW/WP.68

Proposals on Major
Elements of a Future
Convention on the
Complete Prohibition and
Total Destruction of
Chemical Weapons

Also issued
as CD/443
5 March 1984

NOT REPRODUCED
(see WP volume)

Statement of Work of the
of the Committee on Education
Report for the Fiscal Year
of the 1964 Session

CONTENTS

CD/CW/WP.69

Programme of Work of the
Ad Hoc Committee on Chemical
Weapons for the First Part
of the 1984 Session

14.3.84

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CONFERENCE ON DISARMAMENT

CD/CW/WP.70
9 March 1984

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Outline for the organization of work

Mandate

Negotiations shall be conducted according to the mandate adopted by the Conference on Disarmament at its 245th plenary meeting on 28 February 1984, contained in CD/440.

In order to organize this work efficiently the following general directions are provided.

The Chairman of the Ad Hoc Committee will consult with delegations on all matters, and with the Secretariat of the Conference on Disarmament regarding facilities for the work.

Working Groups

Working Groups will be set up on some or all of the subject areas mentioned below. The Chairmen of these groups will be appointed after consultations so that balance is obtained between the different groups in the Conference on Disarmament.

While Working Groups may be instituted at an early stage of the work they may not need to have formal meetings until scheduled in the time-table. The Chairmen of these Groups should use the preceding time for preparations and consultations, so that work could start immediately, when scheduled.

The Chairman of the Ad Hoc Committee, as well as those of the Working Groups, could ask for the service of individual representatives on the Ad Hoc Committee (friends of the Chairman) to prepare for negotiations on particular issues, irrespective of in which Working Groups the particular items belong.

Working Material

All relevant documents produced on the subject so far will serve as a basis for the negotiations.

Other material will be the proposals put forward on different subjects as a basis for the negotiations on chemical weapons. Such proposals may be put forward by the Chairman of the Ad Hoc Committee, and reflect in elements the views of different delegations or be tentative compromise proposals by the

Chairman. Proposals may also be put forward by the Chairmen of the Working Groups or by individual delegations.

Proposals by the Chairman as a basis for negotiations on a ban on chemical weapons should contain an extensive set of proposals containing agreed and divergent views, on the subject in question. Some issues introduced in the extensive set of proposals could possibly be contained in more detailed provisions on the subject or even in annexes. It is suggested that views should be given in this respect, when the subject is negotiated.

Non-agreed concepts contained in such proposals referring to other subject areas of a convention, than those under consideration, e.g. definitions, should be indicated by underlinings.

Working procedure

Proposed texts should be subject to negotiations in the Ad Hoc Committee or the Working Groups. Possible results concerning such texts should be presented at summing-up sessions of the Ad Hoc Committee after the Working Group has used up the allotted time for a particular subject. Such results, and new suggestions by the Chairman taking them into account, should be submitted by the Chairman to delegations as a basis for obtaining new instructions from capitals.

Time shall be provided for a new round of negotiations on that subject, at the latest in connection with the writing of the report on the work by the Ad Hoc Committee.

Besides the customary information, the final report will contain as an Annex an agreed version of the text of the future convention, or part of it, reflecting agreements as well as differing positions.

When the Ad Hoc Committee meets it will consider the following:

Summing up the results of the work of the Working Groups;

Considering where in the structure of a future convention these results might fit in;

Introducing new working material into the work;

Discussion of any other matter which might need to be brought up in the negotiations.

In general the Ad Hoc Committee will meet after two to four meetings of the Working Groups as will appear from the work programme and depending on the meeting facilities available.

Subject areas

The main subject areas for the negotiations will be the following.

1. Scope

This includes, inter alia, definitions and criteria, basic obligations, the question of the prohibition of use, and non-production. Relevant measures for assuring compliance with the obligations in question will also be dealt with.

2. Elimination

This includes, inter alia, the questions of elimination of stockpiles and production facilities including questions regarding declarations and relevant measures for assuring compliance with the obligations.

3. Compliance

This includes, inter alia, consultations, complaints procedures including procedures for requests for verification, Preparatory Commission and Consultative Committee.

The work in the Working Groups on these subject areas should be distributed on relevant sub-items as spelt out in the time-table.

The Preamble and concluding provisions will be taken up in the Ad Hoc Committee when appropriate.

Structure of the Convention

During the negotiations of proposed texts note shall be taken of where in the structure of a convention a particular item should belong. As a tentative rule for the structure of the convention the following rules should apply:

An introductory article I should spell out the broad purpose and commitments under the convention.

The commitments in article I should be expressed, where appropriate, in articles containing the general undertakings of that commitment with respect also to declarations and verification measures. Reference should be given to appropriate detailed provisions on the item and to possible annexes.

Detailed provisions should be negotiated in connection with the general undertakings on the subject.

Annexes may temporarily be connected to the subject under negotiation.

The need for agreed understandings shall be taken into account.

Tentative agreements on where different items should belong in this structure may occur. This should be reported in the final reports. However, the purpose of the structure should be to give a preliminary understanding on the item in question before the final drafting takes place.

Problems regarding the structure of the convention shall be discussed and negotiated in the Ad Hoc Committee.

CONFERENCE ON DISARMAMENT

at the Commission on Disarmament

Disarmament

Agreement on the Prohibition of Nuclear Weapons

The Conference on Disarmament, in its 20th session, held in Geneva from 1977 to 1978, adopted the Agreement on the Prohibition of Nuclear Weapons (ANW) on 10 October 1978. The ANW is a multilateral treaty that prohibits the development, production, acquisition, stockpiling, possession, use, or threat of use of nuclear weapons. It also prohibits the transfer of nuclear weapons or nuclear-weapon-usable material to any State that is not a party to the Agreement.

The ANW is a landmark treaty in the history of disarmament, as it is the only multilateral treaty that prohibits the use of nuclear weapons.

The ANW is a result of the efforts of the Conference on Disarmament, which was established in 1978 by the General Assembly of the United Nations. The Conference has since 1978 held annual sessions in Geneva, and has adopted a number of other disarmament treaties, including the Treaty on the Prohibition of Chemical Weapons (CWC) and the Treaty on the Prohibition of Biological Weapons (BWC).

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CONFERENCE ON DISARMAMENT

CD/CW/WP.71
22 March 1984

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Yugoslavia

Suggested alternative definitions

For the purpose of elaborating the Chemical Weapons Convention, one of the important questions is a chemical weapons definition and a definition of precursors. In the papers CD/CW/WP.38 of 28 July 1982 and CD/CW/CRP.76 of 6 July 1983 (Corr.1) and CD/401, we have given an alternative definition of chemical weapons and suggested a definition of "key" precursors, as well as a list of "key" precursors and precursors.

This paper is intended to offer a summary of these definitions, with certain corrections made as a result of negotiations on these issues.

1. Chemical weapons are a means to inflict wounds on live organisms through their toxic effects; in accordance with the general purpose criterion of the Convention, they can be regarded as having the following three components:

- chemical warfare agents - chemicals;
- munitions or devices for employing CWA, and
- equipment for employing such munitions or devices.

(i) Chemical warfare agents are toxic chemical substances which by their nature and quality can be used for hostile and military purposes, and whose toxic properties directly hamper the normal functions of man, animals and plants, causing death, temporary disability, permanent injury or damage, and for the purpose of the Convention, chemical warfare agents can be divided into three categories: super-toxic lethal, other lethal and other harmful chemicals.

(ii) Munitions or devices specifically designed to cause death or harm of living structure (man, animals and plants) through the toxic properties of CWA (chemicals) released as a result of the employment of such munitions and devices, including binary or multi-component technology.

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

2. "Key" precursors are all those chemicals which are used mainly for the production of chemical warfare agents in last reaction, or, if the procedure is a continuous one, at the final technological reaction stage, and have an only limited application for non-hostile purposes. Therefore, these are the chemicals which contain moieties having a chemical structure similar to that of CWA, or a heteroatom which is responsible for the main characteristics of CWA.

3. Precursors for CWA are chemicals which take part in the reaction to produce "key" precursors, or which take part in the reaction with "key" precursors to yield CWA. These chemicals are dual purpose and are widely used in many branches of civilian chemical industry (pharmaceutical industry, plant or crop protection, etc.).

CONFIDENTIAL ON DISARMAMENT

CONFERENCE ON DISARMAMENT

CD/CW/WP.72
23 March 1984

ENGLISH
Original: RUSSIAN

AD HOC COMMITTEE ON CHEMICAL WEAPONS

Union of Soviet Socialist Republics

Proposal concerning the content of the provision of the future convention on the prohibition of chemical weapons relating to the procedure to be followed in considering a request for an on-site inspection by the State which receives it (amendment to para. 4.3 of the Report of the Co-ordinator of Contact Group B (document CD/416, annex II, p. 14))

"4.3 A motivated request for an on-site inspection by the Consultative Committee or its appropriate subsidiary organ shall be treated favourably and in good faith by the State party which receives it. Refusals to agree to an on-site inspection should be well founded, and should be accompanied by the submission of an exhaustive and prompt explanation of the reasons. The Consultative Committee shall assess the explanation submitted and may send another request, taking into account all relevant elements, including possible new elements received by the Consultative Committee after the original request. If a second request is refused, the State party which originated the request may have recourse to appropriate procedures under the Charter of the United Nations."

1945-1946 National Bureau of Economic Research
Economic Report

1945-1946
National Bureau of Economic Research

Yugoslavia

CD/CW/WP.73

Working Paper - National
Verification Measures

Also issued as
26 March 1984

NOT REPRODUCED
(see WP volume)

Iran

CD/CW/WP.74

Letter Dated 20 March 1984
from the Permanent
Representative of the
Islamic Republic of Iran
Addressed to the President
of the Conference in
Disarmament Containing
Proposals on Some Elements
of a Future Convention
on the Complete Prohibition
and Total Destruction of
Chemical Weapons

Also issued as
CD/483
27 March 1984

NOT REPRODUCED
(see WP volume)

STATEMENT OF WORK

Project Name: [Illegible]

1.0 PROJECT OBJECTIVES

The primary objective of this project is to [illegible] the [illegible] process and to [illegible] the [illegible] of the [illegible] system. The project will focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system. The project will also focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system. The project will also focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system.

The project will be completed by [illegible] and [illegible] the [illegible] of the [illegible] system. The project will also focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system. The project will also focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system. The project will also focus on [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] system.

CONFERENCE ON DISARMAMENT

CD/CW/WP.75
26 March 1984

ENGLISH
Original: CHINESE

Ad Hoc Committee on Chemical Weapons

China

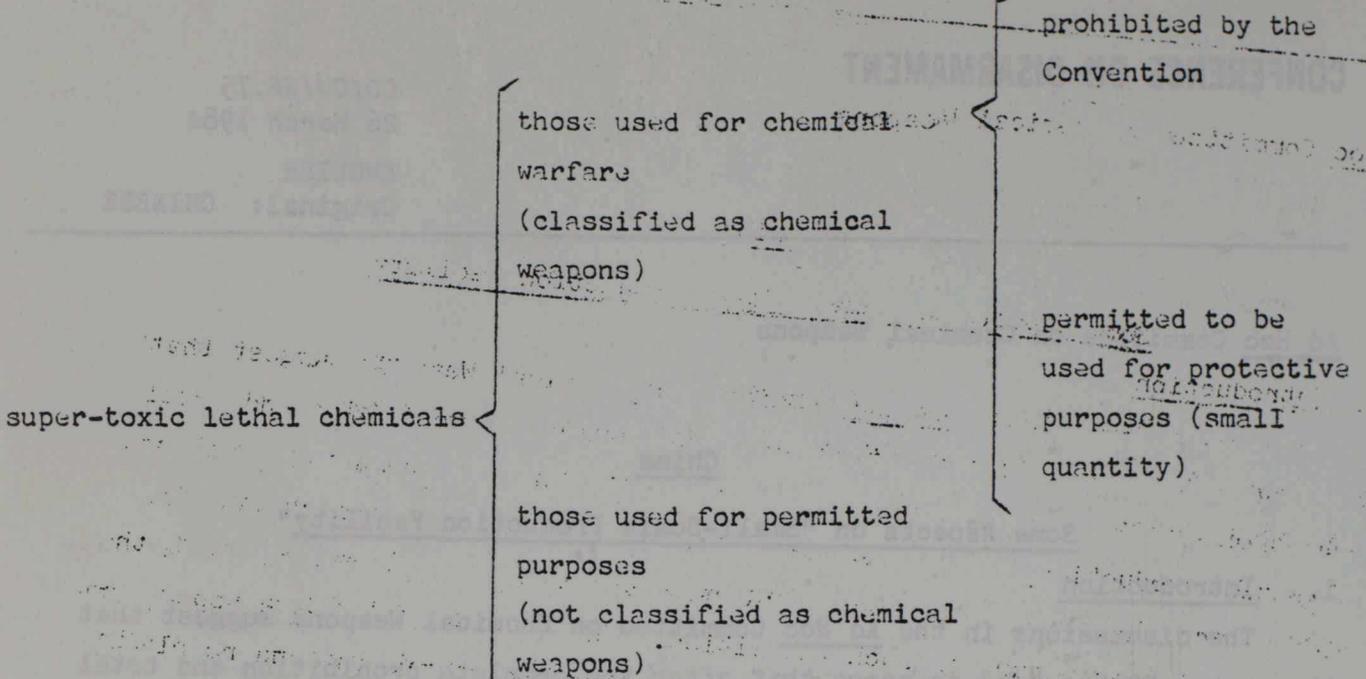
Some Aspects on "Small-Scale Production Facility"

1. Introduction

The discussions in the Ad Hoc Committee on Chemical Weapons suggest that the member States tend to agree that after the complete prohibition and total destruction of chemical weapons, each State party can be allowed to retain one small-scale production facility which produces super-toxic lethal chemicals. But there are still some differences in understanding, and divergence as to the purpose, scale and nature of such facilities. The Chinese delegation hopes that the views expressed in this document may contribute to clarifying and resolving these differences.

2. Purpose

It is the view of the Chinese delegation that the super-toxic lethal chemicals produced by the small-scale production facilities should only refer to those that are used for "protective purposes" and should not be extended to all chemical compounds used for "permitted purposes". According to the definition of chemical weapons, super-toxic lethal chemicals can be divided into two categories: one is used for chemical warfare, therefore constitutes a part of chemical weapons, and should be prohibited; the other is used for "permitted purposes", is not a part of chemical weapons and therefore does not fall within the scope of the prohibition in the Convention. The following illustration gives a clear picture of the interrelationship between the two categories:



It can be seen from the above illustration that the small quantities of super-toxic lethal chemicals produced by those small-scale production facilities which are permitted to be retained by the Convention should be included in the category of chemical weapons, i.e., they are the exceptions to the scope of prohibition which are permitted for protective purposes. If these facilities are allowed to produce super-toxic lethal chemicals for all permitted purposes, it would not only be directly contradictory to the definition of chemical weapons, but also greatly expand the scope of prohibition in the Convention, and would complicate the verification issue.

The Chinese delegation considers that if we adopt the concept of "chemical warfare agent" in the Convention and define those chemicals constituting a part of chemical weapons as chemical warfare agents, and if we use the term super-toxic lethal agents to differentiate them from those super-toxic lethal chemicals which are not within the scope of prohibition in the Convention, the confusions and misunderstandings stated above could be entirely avoided.

3. Number and scale

The Chinese delegation is of the view that in principle the production of super-toxic lethal agents for protective purposes should be carried out in a single small-scale production facility so as to facilitate verification. But the synthesis of small quantities, in the order of one kilogram or less, can also be produced using laboratory apparatus. The apparatus should be set up on a temporary basis and be dismantled immediately after the work is done. Such apparatus is different in nature from the small-scale production facilities.

As for the scale of such facilities, a restriction must be imposed on its maximum annual production capacity (i.e. the annual production capacity in the total hours of operation with regular maintenance time deducted). The Chinese delegation holds that this maximum annual production capacity should be restricted to less than one metric ton so as to ensure that no State party can use this facility to produce super-toxic lethal agents in quantities having chemical warfare significance. Further assurance that all countries are free from the threat of chemical warfare could be achieved if a restriction is also imposed on the quantity of super-toxic lethal agents that each State party actually possesses at any time, for instance, for restricting the quantity to less than one metric ton.

4. Nature

However, to permit the retention of small-scale production facilities has an inherent danger. This danger arises not because the facility itself can be secretly converted into a large-scale one, but because it is possible to utilize the engineering data obtained from these small-scale production facilities to design and build full-scale production plants in other places. As is known to all, a so-called "experimental installation" or "pilot-plant" can play such a role. Therefore, the Chinese delegation holds that the small-scale production facility should simply be a "production installation" which only provides a small quantity of products, and not an "experimental installation" for obtaining engineering data. Attention should be given to the danger of such scale-up, and practical and feasible verification measures be taken.

CONFERENCE ON DISARMAMENT

CD/CW/WP.76
30 March 1984

Original: ENGLISH

AD HOC COMMITTEE ON CHEMICAL WEAPONS

ISLAMIC REPUBLIC OF IRAN

Proposal concerning the content of the provision of the future convention on the prohibition of chemical weapons relating to the procedure to be followed in considering a request by a Member State for an on-site inspection.

(amendment to Article 4 of the Report of the Co-ordinator of Contact Group B (document CD/416, annex II, p.14))

4. An undertaking that in accordance with Article I (CD/484) any one of the Members shall have obligation and right to file a complaint with the Consultative Committee if he is not satisfied that any other Member is securing the effective compliance of the Convention in accordance with the foregoing articles.
- 4.1 An undertaking that the complaint filed with the Consultative Committee as its subsidiary organ for an on-site inspection should contain objective and concrete elements supporting a suspicion of non-compliance with the Convention and should be directly relevant, taking into account ways and means at the disposal of the complainant.
- 4.2 An undertaking to co-operate fully with the Consultative Committee and its subsidiary organs and/or international organizations which may, as appropriate, give scientific, technical and administrative support to the Consultative Committee in order to facilitate their fact-finding activities so as to ensure the speedy clarification of the situation which gave rise to the original request.
- 4.2 bis An undertaking that, in the event of the reference of a complaint to a "fact-finding panel" Members will each, whether directly concerned in the complaint or not, place at the disposal of the Consultative Committee all the information in their possession which bears upon the subject matter of the complaint.
- 4.3 An undertaking to comply with the mandatory decision of the Consultative Committee or its appropriate subsidiary organ for an on-site inspection. A non-compliance accompanied by the submission of a prompt and full explanation of its reasons may be referred to the Consultative Committee for reconsideration.

The Consultative Committee, taking into account all relevant elements, including possible new elements received by the Consultative Committee and assessment of the explanation submitted to it, may suspend or confirm the decision. If the decision is not complied with, the Secretary-General of the United Nations will be requested to have recourse to appropriate procedures under the Charter of the United Nations, on behalf of all Members of the Convention.

4.5 An undertaking that the Consultative Committee or its subsidiary organ shall communicate to all States parties and the United Nations Secretary-General the initiation of any of the procedures referred to above and shall provide all available information related thereto to the States parties.

Department of Agriculture
Bureau of Plant Industry
Washington, D. C.

REPORT

CD/CW/WP.77
Rev. 1

Programme of Work of the
Ad Hoc Committee for the
Month of April 1984

5.4.84

NOT REPRODUCED

Page 1
Date: _____
Time: _____
Place: _____

Subject: _____

Chapter: _____

Section: _____

Objective: _____

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CONFERENCE ON DISARMAMENT

CD/CW/WP.78
2 April 1984

ENGLISH
Original: RUSSIAN

Ad Hoc Committee on Chemical Weapons

Union of Soviet Socialist Republics

Proposal concerning the content of procedures for the verification of the destruction of chemical weapons stockpiles

With regard to the elaboration of procedures for verifying the destruction of chemical weapons at a special facility, the USSR delegation proposes that the effectiveness of verification from the beginning of the destruction process to its completion should be ensured either by the permanent presence of international inspection representatives at the special facility or by a combination of systematic international inspections at the facility, including the associated weapons depot, with the use of instruments (gas chromatographs, dynamometric counters, thermocouples, etc.). In determining the number (quota) and duration of inspections, the consultative committee would proceed from the premise that the presence of inspectors at the facility was advisable during the active phases of the destruction process, particularly the destruction of binary chemical weapons, their elements and supertoxic lethal chemicals and corresponding ammunition or devices. Inspections at the depots attached to special facilities of the next batches of chemical weapons subject to destruction could be conducted together with the inspections at the special facility in general.

In accordance with this approach, it is proposed that specific formulations should be devised for inclusion in the text of the future convention. Our thinking in this respect is that the text of the convention would include, in particular, a provision whereby the consultative committee would, in accordance with criteria (to be elaborated) taking into account primarily the level of danger of a particular type of weapon, determine the types and number of inspections and the duration of the presence of international inspectors at special facilities for the destruction of chemical weapons stocks during such inspections.

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NOT RECORDED
1944-1950

France

CD/CW/WP.79

Elimination of Stocks and
of Production Facilities

Also issued
as CD/494
3 April 1984

NOT REPRODUCED
(see WP volume)

CD/CW/WP.80

Programme of Work of the
Ad Hoc Committee on Chemical
Weapons for the Second Part
of the 1984 Session

17.4.84

NOT REPRODUCED

CONFERENCE ON DISARMAMENT

CD/CW/WP.81

26 April 1984

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Proposals by the Chairman of the Ad Hoc Committee on Chemical Weapons for draft Articles for parts of a chemical weapons convention

In accordance with the agreed outline for the organization of work, CD/CW/WP.70, 9 March 1984, the Chairman of the Ad Hoc Committee on Chemical Weapons proposes some draft articles for a future chemical weapons convention. The proposals are attached. As agreed the proposals build upon and should be read together with the reports of Working Groups' Chairmen. These reports have already been provided to the Ad Hoc Committee.

In addition the Chairman has applied the following principles in working out the proposals.

The proposals have the form of draft articles. They do not contain any bracketed formulations, which means that the Chairman in some cases has chosen between formulations which have been bracketed in the reports of the Working Groups' Chairmen. The formulations in these reports, which have not been in brackets have been used to the fullest extent possible.

In accordance with the outline, the Chairman has in some cases forwarded formulations of his own in order to find compromise solutions, rather than chosen between presented alternatives. When logic so required, the order within some articles has been changed.

The Chairman does not take any position with regard to the suggestions or choices made by him. They are forwarded only to help delegations to take positions of their own or to ask for instructions.

Since no thorough considerations have been given to the structure of the convention the proposed draft articles are not numbered. They only follow each other in the order in which they have been worked out in the Working Groups, except for a few changes, as mentioned. They have however been provided with headings in order to facilitate an over-view of the work. The headings are the following:

Definitions

Basic provisions on the destruction of stockpiles

National Implementation measures

Consultation and co-operation

Fact-finding

- A. General Provisions
- B. Provisions for requests for clarification
- C. Provisions for requests for on-site inspection

Draft Article

Definitions

1. Chemical weapons means those weapons which utilize the toxic properties of toxic chemicals to cause death, temporary incapacitation, permanent injury or damage.

2. For the purposes of this convention:

The term chemical weapons shall apply specifically to the following, together or separately:

(i) toxic chemicals and their precursors, including components of binary or multicomponent chemical weapons except for those toxic chemicals and precursors intended for permitted purposes as long as the types and quantities involved are consistent with such purposes;

(ii) munitions or devices, specifically designed to cause death or other harm through the toxic properties of toxic chemicals released as a result of use of such munitions or devices;

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

3. Toxic chemicals means:

super-toxic lethal chemicals, other lethal chemicals, and other harmful chemicals, as defined below, regardless of the method of production.

4. Permitted purposes means:

(i) non-hostile purposes, that is:

(a) industrial, agricultural, research, medical, law enforcement or other peaceful purposes; and

(b) protective purposes, that is purposes directly related to medical and technical protection against chemical weapons.

(ii) military purposes which are not related to the use of chemical weapons.

5. Precursor means:

A chemical that by any reaction takes part in the synthesis of a toxic chemical.

6. Key precursor is characterized

- by playing an important role in the determination of the toxic properties of i.a. super-toxic lethal chemicals
- by not being used, or used in minimal quantities, for peaceful purposes
- by being used at the final technological reaction stage of any production of the toxic chemical, whether on a production scale or in binary or multicomponent chemical weapons.

Key precursors are listed in after selection by the applying all the above criteria, or agreed otherwise because of their particular significance to the relevant provisions in the convention. The content of the lists should be revised when appropriate.

7. Destruction means:

decomposition of chemical weapons into material that for practical purposes cannot be utilized for repeated production of chemical weapons. Metal from all chemical weapons munitions, devices and equipment may be used for permitted purposes, after any toxic chemical has been removed and the metal has been melted down.

Diversion means:

irreversible transformation of toxic chemicals and their key precursors by civilian industry into products exclusively intended for permitted purposes, in amounts corresponding to such purposes according to the provisions set forth in Annex */

*/ Annex shall specify substances, diversion methods and time frames.

Draft Article

Basic provisions on the destruction of stockpiles

1. States Parties undertake to destroy or divert for permitted purposes as defined in Article ... as rapidly as possible all chemical weapons under their jurisdiction or control.
2. Destruction or diversion for permitted purposes shall for each State commence within six months and be completed within ten years after the Convention's entry into force for it.
3. During the entire stage of destruction or diversion for permitted purposes the time-table for this operation shall be such that no Party that has declared the possession of chemical weapons shall gain any military advantage, whether from possessing binary and multicomponent chemical weapons or any other chemical weapons, including the most toxic chemicals such as vx, soman, Sarin, Tabun, mustard gas etc. in accordance with
4. States Parties undertake to consult no later than three months after entry into force of the Convention with a view to co-ordinate their plans for destruction or diversion of chemical weapons to be submitted subsequently in accordance with Article
5. Methods of destruction and diversion for permitted purposes shall be so designed as to allow for systematic international on-site verification under the Consultative Committee. Details are laid down in ...
6. States Parties undertake to protect the population and the environment in fulfilling the obligations connected with the destruction and the diversion for permitted purposes of chemical weapons.
7. In case any State finds after it becomes a Party to the Convention anywhere under its jurisdiction or control any chemical weapons which were left without its knowledge, such State Party undertakes to destroy them as soon as possible and in a manner which would ensure the security of the population and the environment, according to the quantity and the state of the discovered chemical weapons.
 - The State Party should within days after the discovery inform the Consultative Committee submitting all data in its possession about the found chemical weapons and planned methods, time-tables and the place of their destruction; further details are laid down in ...
 - Each State Party undertakes to comply with possible decisions by the Consultative Committee with regard to destruction and diversion of such weapons including international verification of the destruction or diversion of such weapons.

Draft Article

National Implementation Measures

1. Each State Party to the Convention undertakes to adopt measures necessary in accordance with its constitutional processes to implement the Convention, and in particular, to prohibit and prevent any activity in violation of the Convention and to monitor compliance with the Convention anywhere under its jurisdiction or control.
It undertakes to inform the Consultative Committee^{*/} of the legislative and administrative measures taken to implement the Convention.
2. Each State Party to the Convention undertakes to co-operate with the Consultative Committee in the exercise of all its functions and in particular to provide, through any national organization or authority assigned to implement the Convention, assistance to the Consultative Committee including data reporting, assistance for international on-site inspections and a prompt response to all requests for the provision of expertise, information and laboratory support.

Draft Article

Consultation and Co-operation

1. States Parties to the Convention undertake to consult and co-operate in any matter related to the implementation of the Convention, directly among themselves or through appropriate procedures, including the services or good offices of the Consultative Committee or its subsidiary organs as well as of appropriate international organizations.
2. States Parties to the Convention shall endeavour to clarify and resolve, through bilateral consultation, any situation which may give cause to doubts about compliance with the Convention, or which gives rise to concerns about a related situation which may be considered ambiguous. A State Party seized with a request from another State Party for clarification of a particular situation shall promptly provide the requesting State Party with relevant information in order to dispel doubts and to clarify the situation.

^{*/} Any mentioning only of the Consultative Committee may also relate to its appropriate subsidiary organ, whichever may be decided.

Draft Article

Fact-finding

A. General provisions

1. Each State Party to the Convention undertakes to ensure non-routine verification of compliance with the provisions of the Convention by the application of fact-finding procedures including on-site inspection on the basis of obligations as set forth in Article, arranged bilaterally, or by a request to the Consultative Committee as provided for in Paragraph 3 of this Element.
2. Any State Party may at any time request the Consultative Committee or its appropriate subsidiary organ to carry out, in the exercise of its functions, appropriate procedures with regard to itself or another State Party to clarify and resolve any situation which may give cause to doubt about compliance with the Convention, or which gives rise to concerns about a related situation which may be considered ambiguous. Such a request may include a request for an on-site inspection.
3. Requests sent to the Consultative Committee or its subsidiary organ under Paragraph 2 of this Article should contain objective and concrete elements supporting a suspicion of non-compliance with the Convention and should be directly relevant to the complaint.
4. Each State Party to the Convention undertakes to co-operate fully with the Consultative Committee and its subsidiary organs and/or international organizations, which may, as appropriate, give scientific, technical and administrative assistance to the Consultative Committee in order to facilitate fact-finding activities so as to ensure the speedy clarification of the situation which gave rise to the original request.
5. The Consultative Committee shall notify all States Parties of the initiation of any fact-finding procedures in which it will be involved and shall provide as soon as possible all available information related thereto to all State Parties.
6. Any State Party to the Convention which has reason to believe that any other State Party is acting in breach of obligations deriving from the provisions of the Convention always has recourse to appropriate procedures under the Charter of the United Nations.

B. Provisions for requests for clarification

1. Upon receipt of a request by a State Party for clarification, the Consultative Committee shall seek within ... days or such shorter period as it may decide the necessary clarification from the State Party in question.
2. If no acceptable clarification is received within ... days, or such shorter period as the Consultative Committee may decide, the Consultative Committee may within a further ... days, or such shorter period as it may decide, request to conduct a fact-finding inquiry, including an on-site inspection in order to clarify the situation.

C. Provisions for requests for on-site inspection

1. Upon receipt of a request from a State Party for an on-site inspection, the Consultative Committee or its appropriate subsidiary organ shall as soon as possible and in any case within ... day(s) conduct a prima facie assessment of the request. If the Consultative Committee or its appropriate subsidiary organ concludes that the request contains objective and concrete elements supporting a suspicion of non-compliance with the Convention, it shall forward the request to the State Party in question.
2. Such a request for an on-site inspection by the Consultative Committee or its subsidiary organ shall be treated favourably and in good faith by the State Party which receives it.
3. A report on the on-site inspection shall be transmitted to the Consultative Committee within ...
4. States Parties refusing an on-site inspection shall be required to submit a prompt, factual and exhaustive explanation of the reasons for the refusal and shall endeavour to propose within ... days of such a refusal some alternative measures which could establish beyond reasonable doubt whether or not a case of non-compliance with the Convention had occurred.

The Consultative Committee or its subsidiary organ shall assess the explanation submitted and may cancel or confirm the decision, by which it had forwarded the original request to the State Party in question, taking into account all relevant elements, including possible new elements received by the Consultative Committee after the original request.

6. If a second request for on-site inspection is refused the Consultative Committee shall immediately evoke appropriate procedures under the Charter of the United Nations.

CONFERENCE ON DISARMAMENT

CD/CW/WP.82
6 July 1984

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Preliminary structure of a Convention on chemical weapons

PREAMBLE

SCOPE

- I. Basic provisions
- II. Definitions and Criteria
- III. Declarations
- IV. Elimination of chemical weapons
- V. Elimination of production facilities for chemical weapons
- VI. Permitted activities
- VII. Assistance and Promotion of development goals

COMPLIANCE

- VIII. Consultative Committee
- IX. Consultations and co-operation
- X. National Implementation measures
- XI. Factfinding

OTHER PROVISIONS

- XII. Relation to other international agreements
- XIII. Amendments
- XIV. Duration, withdrawal
- XV. Signature, ratification, entry into force
- XVI. Languages

CD/CW/WP.83

Programme of Work of the
Ad Hoc Committee on Chemical
Weapons for the Remainder
of the 1984 Session

16.7.84

NOT REPRODUCED

Group of
Socialist
States

CD/CW/WP.84

The Organization and
Functioning of the
Consultative Committee

Also issued
as CD/532
8 August 1984

NOT REPRODUCED
(see WP volume)

CD/CW/WP.85	Draft Report of the <u>Ad Hoc</u>	8.8.84
and Add.1	Committee on Chemical	15.8.84
and Add.2	Weapons	14.8.84

NOT REPRODUCED

Ad Hoc Committee on Chemical Weapons

United Kingdom of Great Britain and Northern Ireland

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

1. In documents CD/353 of 8 March 1983 and CD/514 of 12 July 1984 the United Kingdom delegation made proposals for the verification of non-production of chemical weapons. The Annex to CD/353 contained a list of key precursors of significance in this connection, together with the number of plants making them in the United Kingdom. Other delegations were requested to supply similar data for the chemical industries of their own countries. In the light of replies received during the 1983 session the United Kingdom delegation circulated in CD/CW/WP57 of 17 August 1983 a revised version of the Annex to CD/353 containing the data available up to that time.
2. The Annex to the present paper contains a further version of the Annex to CD/353 incorporating data supplied by delegations and by one non-member State during the 1984 session. The United Kingdom delegation is grateful to those delegations who have provided these data, and hopes that other delegations which have not so far done so will make available similar data on the chemical industry in their own country as soon as possible in order to provide a comprehensive basis for further work on this subject in the 1984 session of the CD.
3. The data contained in the Annex show that the number of plants making compounds on this list apart from phosphorus trichloride and phosphorus oxychloride is small. The classification proposed in document CD/514 put these two compounds into a different category from the others which might merit different treatment. The small number of plants making the remaining compounds suggests that random inspection of them to verify the non-production of chemical weapons would be a manageable task. The United Kingdom delegation believes that it would make an important contribution to confidence in a chemical weapons convention without placing an undue burden on the chemical industries of States parties to a chemical weapons convention.

REVISION OF TABLE 1 TO CD/553, INCORPORATING STATISTICS GIVEN BY OTHER CD MEMBERS AND NON-MEMBER STATES ON PRODUCTION OF KEY PRECURSORS FOR CIVIL USES

Key Precursors for Super-toxic Lethal Chemicals	Number of Companies Producing These Precursors										
	United Kingdom	Canada	Italy	Japan	Norway†	Sweden	Switzerland	United States	Belgium	France [⊙]	Netherlands †
Phosphorus trichloride (PCl ₃)	1	0	0	5 or 6	0	0	3	5	0	1	0
Phosphorus oxychloride (POCl ₃)	1	0	0	making both	0	0	2	5	0	1	1
Chemicals containing the P-methyl and/or P-Ethyl bond	2	0	0	some but number unknown	0	0	?	5	0	0	0
Methyl and/or Ethyl esters of phosphorus acid	1	0	0	?	0	0	?	2	0	0	0
3,3 Dimethylbutanol - 2 (pinacolyl alcohol)	0	0	0	?	0	0	?	0	0	0	0
N, N-Disubstitutedβ-aminoethanols	2	0	0	?	0	1	1	5	0	0	0
N, N-Disubstitutedβ-aminoethanethiols	0	0	0	?	0	0	?	1	0	0	0
N, N-Disubstitutedβ-aminoethyl halides (halide = Cl, Br, I)	1	0	0	?	0	0	?	3	0	0	0
<u>Key Precursors for other Super-toxic Chemicals</u>											
Phenyl, alkyl or cycloalkyl -substituted glycolic acids	0*	0	0	?	0	0*	?	2	0	0	0
3- or 4- hydroxypiperidine and their derivatives	0	0	0	?	0	0*	1	1	0	0	0

* Some small scale production for pharmaceutical purposes (less than one tonne p.a.)

? No precise details yet ascertained

† For details see CD/397

Δ 2000-2500 tonnes imported (unspecified) For details see CD/CW/WP 59

⊙ For details see CD/CW/WP/65

⊗ For details see CD/CW/WP/63 of 27 January 1964

Australia

CD/CW/WP.87

Verification of Non-
Production of Chemical
Weapons

Also issued
as CD/541
9 October 1984

NOT REPRODUCED
(see WP volume)

1985

CD/CW/WP.88 Preliminary Programme of 14.1.85
Work for the Ad Hoc
Committee on Chemical
Weapons During the Period
14 January - 1 February 1985

NOT REPRODUCED

CONFERENCE ON DISARMAMENT

CD/CW/WP.89^{*/}
28 January 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

by

The Chairman of the Ad Hoc Committee on Chemical Weapons

Discussion basis regarding "Permitted Activities"

In order to facilitate the discussion on permitted activities under a CW convention two principal parts can be discerned - activities for "permitted protective purposes" and for "other permitted purposes".

1. The production and use of chemicals for permitted protective purposes might be clearly defined regarding the chemicals involved and the aggregate quantity necessary for the purpose. Such chemicals should be listed in the Convention. There seems to be a general understanding that in any case the production of "super-toxic lethal chemicals" for protective purposes should be concentrated to a single small-scale production facility and submitted to verification including systematic international on-site inspection. No further production of these super-toxic lethal chemicals would be permitted other than laboratory quantities for research and medical purposes.

It has also been suggested that some key precursors involved would likewise be produced at the single small-scale production facility and included in the quantity limit that has to be agreed upon.

"Other lethal" and "other harmful chemicals" used for protective purposes could be produced in other production facilities and be submitted to verification.

2. This paper introduces two options regarding the production of other super-toxic lethal chemicals and certain key precursors for permitted purposes other than protective purposes, leaving to each State Party to choose the preferable option.

The first option would be

- to concentrate the production of super-toxic lethal chemicals other than those for protective purposes to one single small-scale production facility where it would be submitted to appropriate verification measures. It has also been suggested that certain key precursors inter alia those containing one methyl or ethyl group directly

^{*/} Re-issued for technical reasons.

bound to a phosphorus atom would as well be produced in the small-scale production facility. Under this alternative it might nevertheless be possible to permit a certain production on a laboratory scale at other places, in order not to hamper research etc.

The second option would be

- to permit such production in the chemical industry subject to the same verification provisions as the production in the small-scale production facility.

3. Further, a few key precursors, which pose a special risk to the Convention and which are not widely used in the chemical industry, can be identified. These chemicals when produced for permitted purposes other than protective purposes might be subject to special regulation regimes, e.g. to be produced only in laboratory quantities.

Other key precursors which pose a special risk to the Convention but which are widely used in the chemical industry might be listed and regulated by declaration and verification measures.

4. Production of super-toxic lethal chemicals and key precursors in laboratory quantities for research and medical purposes might not be prohibited under the Convention. Such quantities could range from 10 - 100 grams but remain to be defined. It has been suggested that such production should be declared and verified by various means in order to avoid the development and production of chemical weapons.

PERMITTED ACTIVITIES^{*/ **/}

Each State Party has the right, in accordance with the provisions of this Convention, to develop, produce otherwise, acquire, retain, transfer and use toxic chemicals and their precursors^{***/} for permitted purposes, in types and quantities consistent with such purposes, subject to the following:

^{*/} Article VI in CD/539

^{**/} A general provision stating that the Convention shall be implemented in a manner designed to avoid hampering the economic and technological development of States Parties to the Convention or international co-operation in the field of permitted chemical activities could be put either in this article or in Article XI "Economic and technological development".

^{***/} The expression "Toxic chemicals and their precursors" is used with reference to the section on "definitions" in CD/539.

I. Super-toxic lethal chemicals and their key precursors for protective purposes

(a) Each State Party may produce, divert from stocks of chemical weapons; or otherwise acquire super-toxic lethal chemicals as listed in ...*/ and key precursors as listed in ...**/ for protective purposes. The aggregate amount***/ shall be the lowest possible and in any case not exceed ... metric ton produced or acquired annually or possessed at any one time.

(b) Such super-toxic lethal chemicals and key precursors for protective purposes should be produced at a single small-scale production facility having a capacity limit of ...

(c) Each State Party shall notify the location and capacity****/ of the small-scale production facility to the Consultative Committee within 30 days after entry into force for a State Party, or if constructed later ... days before the date of commencement of operations.

(d) The small-scale production facility shall be monitored by annual data reporting including information on the purpose of the production, by on-site instruments, and by systematic international on-site inspection as provided for in ...

*/ List containing inter alia Vx, Tabun, Sarin, Soman, Mustard gas.

**/ The list could include e.g. methyl phosphonyl difluoride, O-ethyl 2-diisopropyl amino ethyl methyl phosphonite, 3, 3-dimethylbutanol-2.

***/ The permitted amount of key precursors could be calculated on the amount of chemical warfare agent that can be produced from them.

****/ The production capacity limit of a single small-scale production facility for protective purposes must be agreed upon to avoid the suspicion of a production exceeding the agreed aggregate quantity. The capacity might be controlled by the following factors:

1. the facility is operating 75 per cent of the hours of the year
2. the volume of the reaction vessels shall be limited to 5 to 10 litres.

Different types of equipment might be needed for the production of different kinds of toxic chemicals.

II. Super-toxic lethal chemicals and their key precursors for permitted purposes other than protective purposes

1. Super-toxic lethal chemicals

(a) Each State Party undertakes not to produce or employ from stocks of chemical weapons super-toxic lethal chemicals listed in ...,*/ except for production and use of such chemicals in laboratory quantities for research and medical purposes at establishments approved by the Party and declared to the Consultative Committee.

(b) The production for permitted purposes other than protective purposes of super-toxic lethal chemicals other than those listed in ...,*/ and except for production and use of such chemicals in laboratory quantities**/ shall be carried out

- in a special single small-scale production facility, or alternatively
- in other declared production facilities

as chosen by each State Party.

(c) Declaration of production facilities for super-toxic lethal chemicals***/ shall be made to the Consultative Committee as outlined in ...

(d) The production shall be monitored by regular data reporting, including information on the purpose of the production, and by systematic on-site inspection as outlined in ...

2. Key precursors for permitted purposes other than protective purposes, and some chemicals, posing a particular risk to the Convention

(a) Each State Party undertakes not to produce or employ from stocks of chemical weapons key precursors listed in ...,****/ except for production and use of such chemicals in laboratory quantities**/ for research and medical purposes at establishments approved by the State Party and declared to the Consultative Committee.

*/ List containing inter alia Vx, Tabun, Sarin, Soman, Mustard gas.

**/ To be defined; laboratory quantities could e.g. range from 10 to 100 grams.

***/ For permitted purposes other than protective purposes.

****/ The list should contain key precursors which pose a special threat to the Convention and which have no or limited commercial uses. The list would include e.e. methylphosphonyldifluoride, O-ethyl 2-diisopropyl amino ethyl methyl phosphonite, 3,3-dimethylbutanol-2.

(b) Chemicals containing one methyl or ethyl group directly bound to a phosphorus atom shall be produced in

- a single small-scale production facility, or alternatively
- in other declared production facilities

as chosen by each State Party.

(c) Facilities mentioned in (b) shall be declared by location and production capacity^{*} to the Consultative Committee.

(d) The production of other key precursors as listed in ... shall be declared to the Consultative Committee as outlined in ...

(e) The production in (b) and (d), except laboratory scale production, shall be monitored by regular data reporting, including information on the purpose of the production, and systematic international on-site inspection as provided for in ...

III. Other lethal and other harmful chemicals

(a) All facilities producing toxic chemicals listed in ... in amounts exceeding ... shall be declared to the Consultative Committee as outlined in ...

(b) The production shall be monitored by annual data reporting as outlined in^{**}

IV. Precursors

(a) All facilities, producing precursors posing a special threat to the Convention and which are listed in ..., in amounts exceeding ... shall be declared to the Consultative Committee as outlined in ...

(b) The production shall be monitored by annual data reporting as outlined in ...

^{*}/ To be elaborated.

^{**}/ Certain compounds, e.g. nitrogen mustards and lewisite might warrant special attention.

CONFERENCE ON DISARMAMENT

CD/CW/WP.90 */
28 January 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

by

The Chairman of the Ad Hoc Committee on Chemical Weapons

Proposals for some principal provisions of an article on Consultation, Co-operation and Fact-Finding

1. The following contains proposals for provisions of an article on Consultation, Co-operation and Fact-Finding and on the functions and composition of an Executive Council. The proposals are intended as an outline of concepts on which could be built a comprehensive convention text. The proposals are based on CD/539, Annex I.
2. The article should provide for clarification of different matters related to the Convention which may appear ambiguous for various reasons, including technical reasons. It should also provide for measures on how to deal with a suspected violation without necessarily presupposing such a violation.
3. The proposals do not specify any actual time limits for the measures to be taken, but usually a number of days are envisaged. Recognizing that speed may be essential a whole sequence of measures should be completed in the shortest possible time.
4. The proposed fact-finding procedure should generally follow an agreed order. It should start on a low political level enabling the States Parties to clarify matters on a bilateral basis, continuing, if necessary, with a series of measures, which might end with a request for an on-site inspection. However, in cases of alleged use of chemical weapons a speedier process might be needed. Further, when States are at war with each other, or lack diplomatic relations between themselves, they could initiate the fact-finding process at another stage of the procedure.
5. There is a strong need to construct a compliance regime, which does not unduly infringe upon the sovereignty of the States Parties to the Convention. For this purpose it would be necessary to incorporate into the Convention itself provisions for the measures to be taken automatically, thus eliminating the need for the

*/ Re-issued for technical reasons.

Consultative Committee to take substantive decisions in each specific case. Decisions by the Consultative Committee on a request for on-site inspection, should only concern whether the request fulfills stipulated requirements. The same should apply also for refusals to accept an on-site inspection.

6.. An example of the procedure mentioned in 5. would be the case when the Consultative Committee finds that the reasons given by a State Party for a second refusal of a request for an on-site inspection do not meet with stipulated requirements. For such a case it is proposed that the Convention should contain provisions that the matter is automatically reported to the United Nations Security Council, which can take mandatory decisions according to the Charter of the United Nations.

CONSULTATION, CO-OPERATION AND FACT-FINDING ^{*/}

I. CONSULTATION AND CO-OPERATION

Each State Party undertakes to consult and co-operate in any matter related to the implementation of the Convention, directly among themselves or through appropriate procedures, including the services or good offices of the Consultative Committee, or, on its behalf, the Executive Council as provided for in ..., and implied in the rest of this article, as well as of appropriate international organizations.

Each State Party shall endeavour to clarify and resolve, through bilateral consultation, any situation which may give cause to doubt about compliance with the Convention, or which gives rise to concerns about a related situation which may be considered ambiguous. A State Party seized with a request from another State Party for clarification of a particular situation shall within ... days provide the requesting State Party with relevant information in order to dispel doubts and to clarify the situation.

II. FACT-FINDING

A. General Provisions

1.. Any State Party may, as spelt out in ..., request the Consultative Committee to carry out, in the exercise of its functions fact-finding procedures with regard to itself or another State Party to clarify and resolve any situation which may give cause to doubt about compliance with the Convention, or which gives rise to concern about a related situation which may be considered ambiguous. Such a fact-finding request may include a request for an on-site inspection, if an on-site inspection would be necessary for providing the requested facts.

^{*/} Corresponds to Article IX in CD/539, Annex I.

2. The requesting Party should state relevant reasons for the request. The State Party shall also specify which other measures provided for under the Convention it has taken or, if no such measures have been taken, the reasons herefor. The requesting Party shall propose the action to be taken by the Consultative Committee.

3. Each State Party undertakes to co-operate with the Consultative Committee and its subsidiary organs and/or international organizations, which may, as appropriate, give scientific, technical and administrative assistance to the Consultative Committee in order to facilitate fact-finding activities so as to ensure the speedy clarification of the situation which gave rise to the original request.

4. The Consultative Committee shall notify all States Parties of the initiation of any fact-finding procedures, as provided for in ..., in which it will be involved and shall provide as soon as possible relevant information to all States Parties. A request by one State Party for clarifying information from another State Party using the machinery of the Convention need not constitute an initiation of a fact-finding procedure in which case all States Parties need not be informed.

B. Provisions for requests for fact-finding

1. Fact-finding: aims, grounds for requests and refusals (to be elaborated).

2. Fact-finding procedures.

(a) Clarification

Upon receipt of a request from a State Party for clarification of a matter the Consultative Committee shall transmit the request within ... days of the request. The Party receiving the request shall within ... days respond directly to that Party or to it through the machinery of the Convention.

(b) Fact-finding investigations (other than on-site inspection)

If the State Party is not satisfied by the response to the request for clarification, or if any State Party has doubts and concerns about the compliance with the Convention, it can request the Consultative Committee to initiate a fact-finding investigation.

Upon receipt of such a request the Consultative Committee shall within ... initiate the fact-finding investigation which will be conducted as specified in

A report #/ on the fact-finding investigation shall be presented to the States Parties by the Consultative Committee within The report shall contain the information and the views presented during the requested fact-finding investigation.

#/ A report may be interim or final depending upon the circumstances.

(c) On-site inspection by challenge

1. Upon receipt of a request from a State Party for an on-site inspection, the Consultative Committee shall as soon as possible and in any case within ... day(s) conduct a prima facie assessment of the request.
2. If the Consultative Committee concludes that the request does not meet with stipulated requirements it shall not forward the request to the State Party in question.
3. If the Consultative Committee concludes that the request meets with stipulated requirements it shall forward the request to the State Party within ... day(s).
4. Such a request shall be considered in good faith by the State Party, which receives it, and be responded to within ... day(s).
 - 4a. When an on-site inspection has been accepted by the State Party, it shall begin within ... day(s) and be conducted as specified A report */ on the inspection shall be transmitted to the Consultative Committee within
 - 4b. In the case that an on-site inspection has been refused, the refusing State Party shall submit to the Consultative Committee and to the requesting State Party within ... day(s) a factual and exhaustive explanation for the refusal and propose alternative measure(s) which could resolve the doubts and concern of the requesting State Party.
5. The Consultative Committee shall assess whether such a refusal submitted to it meets with stipulated requirements, and may decide that the proceedings be terminated or that the reasons for an on-site inspection remain, taking into account all relevant elements, including possible new information received after the original request. The Consultative Committee shall inform the requesting State Party about its decision. The requesting State Party may or may not accept the explanation.
6. If the request for on-site inspection is refused a second time, the reasons given for the refusal shall be submitted to the Consultative Committee within The Consultative Committee shall within ... decide whether the refusal meets with stipulated requirements. Such a decision shall be taken in accordance with The Consultative Committee shall within ... inform all States Parties of its decision and the reasons therefore.
7. If the Consultative Committee decides that second refusal of a request for on-site inspection does not meet with stipulated requirements, the Committee shall, on behalf of States Parties, within ... report its decision to the Security Council of the United Nations and forward all matters relating to the request for an on-site inspection, and invite the Security Council to consider the matter.

*/ See previous foot-note on "report".

Executive Council ^{*/}

10. For the purpose of assisting the Committee in carrying out its functions, an Executive Council, as specified in ..., and a Technical Secretariat shall be established.
11. The Consultative Committee may set up other subsidiary organs as may be necessary for its work.
12. The Executive Council shall have delegated authority to discharge the functions of the Consultative Committee set out in ... as well as any other functions which the Committee may delegate to it. The Council shall report to the Committee at its regular sessions on the Council's exercise of these functions. In the intervals between the sessions, questions with regard to promoting the implementation of and compliance with the Convention shall be dealt with by the Executive Council acting on behalf of the Consultative Committee.
13. The Council shall be composed of representatives of 15 States Parties and a non-voting Chairman.

The members of the Council shall be elected by the Consultative Committee upon consultation with the States Parties, taking into account the principle of equitable political and geographic representation, for a term of three years, with an annual election of 5 members.

14. The Council shall take its decisions on request for and refusal of requests for fact-finding activities by consensus. If a consensus cannot be reached within 24 hours a decision may be taken by an affirmative vote of nine. A report on a fact-finding activity shall not be put to a vote, nor shall any decision be taken as to whether a Party is complying with the provisions of the Convention. With regard to a request for on-site inspection, the State subject to the request shall always be informed of the individual opinions expressed by all the members of the Executive Council on the matter. The Council shall take its decisions on procedural matters related to the organization of its work by consensus whenever possible, and otherwise by a majority of those present and voting.

A fact-finding team shall be appointed immediately by the Executive Council when a request for an on-site inspection has been forwarded to a State Party by the Executive Council so as to diminish the time lag, should the request be accepted by the requested Party.

A fact-finding team shall automatically be sent out by the Executive Council in response to the request made by a State Party for inspection to be carried out in territories under its control.

^{*/} Corresponds to part of Article VIII in Annex I of CD/539.

15. The Council shall function continuously. Each member of the Council shall for this purpose be represented at all times at the seat of the Consultative Committee.
16. The Chairman of the previous regular session of the Consultative Committee shall serve as Chairman of the Council.
17. The Executive Council may set up such subsidiary organs as may be necessary for its work.
18. The Technical Secretariat shall
 - (a) provide administrative support to the Consultative Committee and the Executive Council;
 - (b) render technical assistance to State Parties, the Consultative Committee and the Executive Council;
 - (c) provide the international on-site inspections;
 - (d) assist the Consultative Committee and the Executive Council in tasks related to information and fact-finding as well as in other tasks provided to it by those organs. */

*/ The functions of the Technical Secretariat might be specified further.

Ad Hoc Committee on Chemical Weapons

Working Paper

The Committee of the Conference on Chemical Weapons
has decided to establish a Working Group on the
Prohibition of Chemical Weapons to study the
question of the prohibition of chemical weapons.

List of Subjects

Introduction

1. Importance of the prohibition of chemical weapons
in the context of disarmament

Characteristics

1. Characteristics of chemical weapons

- 1. Type of substance
- 2. "Readiness"
- 3. Physical properties
- 4. Toxic properties
- 5. Persistence

2. Characteristics of chemical weapons in comparison
with biological weapons

3. Characteristics of chemical weapons in the context of
disarmament

Characteristics of chemical weapons

1. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

2. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

3. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

4. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

5. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

6. Characteristics of chemical weapons for disarmament purposes in the
context of disarmament

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

by

the Chairman of the Ad Hoc Committee on Chemical Weapons

DISCUSSION BASIS REGARDING PRINCIPAL ORDER FOR THE COMPLETE
DESTRUCTION OF CHEMICAL WEAPONS PREPARED BY THE CHAIRMAN OF
THE COMMITTEE ON CHEMICAL WEAPONS

List of Content

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Suggestion for an approach for comparing different types of stockpiles

Introduction

There seems to be consensus in the Committee on Chemical Weapons that the destruction of chemical weapons shall take place within 10 years after entry into force and that the destruction shall be carried out in such a way that no State Party possessing chemical weapons should gain a military advantage. It seems also to be a widely held view that the destruction should start rather early and in any case not later than two years after entry into force of the convention.

Furthermore, a principal order of destruction should be included in the framework of a Chemical Weapons Convention to serve as a basis for the Parties' planning of the destruction of their weapons in collaboration with the Consultative Committee under the Convention, after the Convention has entered into force. The principal order of destruction shall be applicable irrespective of the actual composition and the size of the stockpiles, which will not be known until the States Parties had declared their chemical weapons after the Convention has entered into force.

In order to elaborate such a principal order it would be necessary to identify and evaluate various factors and possible methods to compare different kinds of stockpiles.

This discussion paper is an attempt to identify some such possible factors and methods. It is intended as a starting point for deliberations aiming at as simple and practical a solution as possible. The list of possible factors might therefore not be exhaustive and some of the factors might turn out to be superfluous. Furthermore the Chairman does not advocate any particular point presented here. They are all hypothetical and presented with the only intent to facilitate the discussion.

Factors of possible importance for comparing different kinds of stocks of chemical weapons

"Location"

The "location" or more correctly the type of deployment of stockpiles might be of relevance:

Forwardly deployed weapons at military units for immediate use.

Regional and local depots of chemical weapons under military command.

Central stockpiles.

Composition of stockpiles with respect to:

1. Types of munition.

The type of munition (artillery shells, bombs, rockets, missiles, parts for binary and multicomponent weapons etc.) and other disseminating devices (e.g. mines and spray devices) might have to be evaluated from the point of view of their intended use. Such an evaluation would have to be weighed together with existing amounts of the respective types of munitions etc., as well as with the physical and toxic properties of the chemical warfare agents^{*/} in them.

2. "Readiness"

An order of destruction could differentiate the stocks with respect to the "dangerousness" or threat they might pose due to their availability for rapid use. Some stockpiles would probably contain chemical weapons in different stages of readiness, i.e.

loaded munitions, including obsolete or unserviceable munitions, bombs, rockets etc., and other specific devices,
unloaded munitions, etc.,

bulk stockpiles of chemical warfare agents.

The two first types of stockpiles mentioned above might be considered more dangerous than bulk stockpiles. The readiness or availability might be a decisive factor for a principal order of destruction.

3. The physical-chemical properties of the agents - volatility, mobility and penetration properties - determine to a large degree the tactical use of the weapons. Furthermore the same type of munition may contain different kinds of chemical warfare agents.

4. Toxic properties

The toxic properties of chemical warfare agents might be another decisive factor for a principal order of destruction. Both the type of toxic effect, and

^{*/} The expression "chemical warfare agents" denotes the toxic chemicals loaded into munition etc. or stockpiled awaiting to be loaded into munitions. Key precursors should be assessed on the basis of the final products for which they are intended.

^{*/} The use of chemical warfare agents for the permitted protective purposes could also be considered in this context. However, since only minor quantities would come into question in this context this case is not considered here.

the size of the lethal or otherwise effective dose would need to be considered, as is already done in the generally agreed categorization of chemicals to be regulated by a Convention. It should be remembered that the actual toxic effect exercised by a chemical warfare agent depends upon the mode of administration to the body and thus upon the type of munition and the delivery system.

5. Quantities

A principal order of destruction has to take into account the existence of differences in quantities of stockpiles of different State Parties.

Example of categorization according to composition

A "categorization" of chemical weapons taking into account the type of munition and physical and toxic properties of the chemical agents might look as follows:

Loaded munitions etc.

Unloaded munitions etc.

Toxic chemicals.

Further sub-categories could be introduced, e.g.

Persistent agents,

Non-persistent agents,

as well as:

Super-toxic lethal chemicals,

Other lethal chemicals,

Other harmful chemicals,

Key precursors.

Possible influence of destruction methods on the Principal order of destruction

Destruction capacity

It is obvious that a principal order of destruction must presuppose a sufficient destruction capacity by the States Parties concerned. Depending on the types of weapons declared and methods available at the time the principal order of destruction might have to be adjusted after the entry into force of the Convention. The possibility for such later adjustments should therefore also be provided for.

Destruction by transformation for permitted purposes in the chemical industry

If the Convention will allow for transformation of chemical weapons for permitted purposes as an alternative for destruction, one aspect of possible importance with respect to a principal order of destruction would be when chemical warfare agents are dual purpose chemicals and might be used for permitted purposes under the Convention.^{*/} A principal order of destruction might have to take this aspect into account. This could be of particular interest with respect to bulk stockpiles of such agents. The possibility for verification of this variant of destruction might also come into play.

Possible approaches for a principal order of destruction

"Most dangerous weapons" first

Views have been put forward that a guiding principle for the order of destruction should be that the "most dangerous" weapons be destroyed first, e.g. during the first half of the destruction period. Since the declarations of the stockpiles and thereby their compositions will not be made until after the entry into force of the Convention such an approach should require a negotiated agreement of what constitutes the most dangerous weapons. Furthermore, the differences in the amounts of various types of chemical weapons in the stockpiles of States Parties could result in imbalances with respect to the threat posed by remaining stocks of "less dangerous" weapons, once the "most dangerous" had been destroyed.

Rate of destruction

One approach would be to destroy the substantial part of existing stockpiles of chemical weapons in the early part of the 10 year period after entry into force of the Convention.

Other approaches would be to apply separately or in combination with other approaches mentioned a method of destruction by percentage over set time periods (years). It might have to be complemented by a method for comparing widely differing compositions and sizes of stockpiles.

The principle of destruction by percentage could perhaps also serve to build confidence between States Parties, in particular if large amounts are destroyed in an early phase. The destruction rate could e.g. vary over the destruction period.

^{*/} The use of chemical warfare agents for the permitted, protective purposes could also be considered in this context. However, since only minor quantities would come into question in this context this case is not considered here.

Possible choice of destruction rate and methods

One could also discuss the possibility of leaving a certain degree of freedom for each State Party to decide in what order the destruction of its stockpiles may be performed. If for example it were to be decided that the "most dangerous weapons" be destroyed within the first half of the destruction period, States Parties might be left free to destroy remaining "less dangerous weapons" at a rate chosen by themselves before the end of the destruction period. It might also be technically and economically more advantageous to destroy one whole category of weapons in one operation rather than to perform several operations over time. This may particularly be the case when transformation for permitted purposes in the chemical industry has been chosen as the method for destruction for some chemical warfare agents.

It could in all circumstances be possible to start early with destruction of unloaded chemical munitions, since that would not require sophisticated destruction facilities.

Suggestion for approach for comparing different types of stockpiles

There is a problem of comparing stockpiles of chemical weapons containing chemical warfare agents of widely differing toxicities and amounts. This problem might be solved if a "comparison factor" relating the entities to each other could be calculated.

It should be realized that such an approach might give only a rough measure for comparison between different chemical weapons arsenals, but could still be useful in comparing directly the "threats" posed by stockpiles of different States Parties.

The "comparison factor" could, in its simplest form, be obtained by dividing the amount of chemical warfare agent existing in different stockpiles by the toxicity expressed in some agreed manner.

With respect to the catalysization of munitions mentioned on page 5 one might also have to consider a "category dependant constant" to be applied when calculating the comparison factor.

Ad Hoc Committee on Chemical Weapons

FINLAND

Description of a Facility for the Small-Scale Production of
Chemical Warfare Agents for Protective/Permitted Purposes

1. Introduction

The comprehensive ban on chemical weapons will include an undertaking not to produce chemical warfare agents. However, small-scale production of agents will be allowed for certain protective/permitted purposes (CD/539).

Discussions in the ad hoc committee on chemical weapons have suggested that each State party could have a single small-scale facility for this production. Agreement seems to prevail that the aggregate quantity of annual production should not exceed one metric ton. Differing views have been presented regarding the purpose, scope and nature of this facility, namely that it should either (1) only be concerned with production for protective purposes or (2) be extended to the production of all "specified" toxic chemical compounds used for permitted purposes (CD/CW/CRP.89, CD/CW/WP.75, CD/500, CD/294).

Studies aimed at the development of protection methods may require the availability of potential new agents. Therefore, a capacity to produce new agents in small scale will probably need to be included. In our view, any development of new or potential agents ought, however, to be carried out under fully controlled conditions. If the plant is also to serve for the production of permitted compounds for purely civilian purposes, more flexibility in the equipment will be necessary and verification of the production will be more difficult.

In this paper the Finnish Research Project on the Verification of Chemical Disarmament explores in a preliminary way the structure of a small-scale facility capable of producing toxic lethal chemicals in aggregate quantity of one metric ton per year maximum.

The report presents a purely technical evaluation, intended to facilitate discussion. It is not to be understood as a political suggestion that this kind of fully automatic and patently verifiable small-scale production plant will

always be necessary. Depending on the existence of mutual trust, simpler facilities may in some conditions be politically acceptable. Moreover, the limitation of our description to a single central facility is for practical reasons, and does not indicate an intention to preclude the possibility of there being several facilities.

2. Monitoring the small-scale production

The goal in monitoring a small-scale facility is to ascertain that only declared agents and their precursors are produced, in quantities not exceeding agreed limits. It is our view that for this purpose detailed production plans ought to be submitted for approval to the Consultative Committee or other international control organization before production begins. These plans, submitted quarterly for instance, could include detailed qualitative and quantitative information on raw materials, reaction pathways and intermediate and finished products. In addition, annual reports of the production could be submitted and distributed among the States Parties.

To verify an announced production, detailed chemical analyses could be carried out at various stages of the production. All raw materials, intermediates and finished products would be analysed and their quantity determined. This could be done using routine analytical methods in a control laboratory of the facility. Analyses could be carried out by local staff of the facility and checked in on-site inspections by an international authority. Samples could also be collected by an automatic tamper-proof sampler for later verification of the correctness of the reports. In addition to analytical data on materials, physical parameters such as temperature and pressure profiles of processes, as well as batch weights and reaction times could be recorded automatically by computer.

All the data obtained would be recorded in computer data files. These data would comprise batch records, qualitative and quantitative analyses of raw materials and finished products as well as process operation characteristics. Computer-stored data could be continuously matched against a computer model. Depending on the terms of the Treaty, any deviation from production plans could be immediately reported to the international control organization.

3. Description of a small-scale facility

The basic design principle of the small-scale facility we describe is that it be a completely independent multipurpose production unit, capable of performing all functions from analysis of raw materials and products to destruction of solid, liquid and gaseous wastes. That the facility be self-contained is essential for comprehensive monitoring. A further design principle is that the facility be flexible enough to allow the incorporation of new production processes and methods. Because of the toxicity of the compounds to be produced, safety considerations require special attention at the planning stage.

3.1 Technical description of the facility

The facility would comprise units for (1) production, (2) control analyses, (3) storages for raw materials and products and (4) destruction of wastes. (For a scheme, see Fig. 1.)

3.1.1 Production

The production of chemical warfare agents involves several technically difficult unit processes. The high toxicity and reactivity of the chemicals in production processes set special requirements for the construction of process units. Some examples of the synthesis of agents are presented in Fig. 2.

It would be reasonable to divide the production unit into three departments, since batches of various size will probably be needed:

(1) a laboratory for producing agents in quantities less than 100 grams per batch;

(2) a bench-scale department (0.1-2 kg/batch);

(3) a pilot-scale department (2-50 kg/batch).

The laboratory would contain standard equipment for organic synthesis, with most reactions to be carried out in glass vessels. Extremely effective ventilation and glove boxes would be required for the safety of the personnel.

In the bench-scale department reactions would be carried out in reaction vessels of 1-10 litres made mainly of glass. Other suitable materials could be used for reactors designed for fluorination and special reactions. The most dangerous reactions would have to be carried out hermetically and be remotely controlled.

The pilot-scale department would be a multipurpose unit comprising 8 to 10 reactors of 50-200 litres each by volume and made of enamel-glazed, acid-proof steel or other suitable materials. Some hazardous unit processes, such

as Grignard reactions, would require process lines of their own. Reactors of this size can yield 2-50 kg of an intermediate or finished product per batch depending on the amount of solvent and the degree of charging. It should be noticed that for most compounds production amounts will be small with reactors of this size. This is because the multi-step synthetic routes that will be needed, lead to yields much smaller than theoretical. In addition to the reactors, suitable units would have to be available for filtration and drying of solid materials, and distillation units would be required for purification of liquid products and regeneration of solvents.

It would be reasonable to build the pilot-scale department extending over at least three floors, as such a construction facilitates the transfer of intermediate products from one reactor to another. For safety reasons the reactor section should be hermetically isolated, and automated in a manner allowing full remote control and registration of all material flows. Provisions for tamper-proof sampling at different reaction stages could be included. The ventilation system could be equipped with air samplers for continuous control of exhaust gases.

3.1.2 Control laboratory

The task of the control laboratory is to make chemical analyses of raw materials, intermediates and finished products. For this purpose it should contain instrumentation for the identification and quantification of known chemical agents.

The primary analytical equipment will be gas and liquid chromatographs combined with a small mass spectrometer, and an infra-red spectrometer. If, however, new compounds or processes are to be developed, more sophisticated instrumentation will be needed for structural analysis.

3.1.3 Storages

The facility will require separate storages for raw materials, intermediates and finished products. The storage of raw materials must be adequate for solid and liquid raw materials and solvents. The volume of solvent containers can be reduced if solvents are regenerated in a distillation unit and recycled back to containers. However, this is necessary only for the most voluminous solvents. Incompatible chemicals would have to be stored in separate compartments, and special attention must be paid to the storage of gaseous compounds.

Storages for intermediates and finished products could be designed after the same principles as the storages for raw materials. Special attention must be paid to the safety and security of the finished product storage.

Dimensions of the storages should be such that large-scale production of chemical warfare agents is not possible in the facility. This is especially important for the storage of finished products, the capacity of which must not exceed one metric ton.

3.1.4 By-product and waste management

Depending on processes solid, liquid and gaseous by-products and wastes will be formed. Because these will usually be contaminated by super-toxic compounds, they must be destroyed in such a way as not to endanger the environment. Incineration at sufficiently high a temperature (1200-1400°C) followed by washing of the exhaust gases is perhaps the best approach, being environmentally safe and generating only small amounts of solid waste-products (CD/CW/WP.64).

A small facility for treatment of toxic waste-waters may be necessary. It should be monitorable at any time.

3.1.5 Automation

Automation will be needed for effective data recording, monitoring of the production and process control. Monitoring and controlling functions should be separated because of their different purposes. However, the monitoring system will have to be capable of producing the necessary on-line information for process control without allowing at the same time any possibility for tampering with the information stored for the international control organization.

Equipment for automated process control is commercially available. The monitoring tasks can be divided into (1) data collection from processes of bench- and pilot-scale, (2) data recording of inflow and outflow of material (3) keeping of batch and master records, (4) collection of the results of chemical analyses and (5) a simulation model that reveals deviations from production plans. Physically these primary tasks could be assigned to three mini-computers, such that tasks 2, 3 and 5 are handled by a single computer and tasks 1 and 3 by separate computers. In addition, the system may include micro-processor based instruments and micro-computers.

If all compounds for permitted purposes were to be produced in one facility the number of compounds might well become too large to be reasonably produced. In addition transportation problems would arise in countries of large geographical area (CD/CW/WP.65). This problem might be overcome by allowing truly civilian production in additional properly controllable facilities.

Process data could be collected with several devices, the most important being:
operating timers
weightometers
temperature sensors
pressure sensors.

The system would record the data mentioned, buffer them and transfer them on-line to the main computer (in the case of tasks 2, 3 and 5) for further storage and processing. Data collection would be best accomplished with the aid of several micro-processors or micro-computers. The system would also provide the information necessary for process control.

Data recording of materials is available as a standard data-management program for industrial use. In the small-scale facility, the main task will be to record how much and what kind of material is coming into and leaving the facility; for example, regarding raw materials the name of the supplier, supplier's lot number, date and amount received, and tests performed.

A master production and control record (Master Record) will need to be maintained to provide specific operating and control instructions for the production of each chemical. The Master Record could include a complete list of raw materials and a statement of the weight or measure of each raw material per unit of production and production and control instructions, procedures, specifications, special notations and precautions to be followed.

The control laboratory could have its own recording system for the analytical results. These results will consist of qualitative and quantitative information on samples analysed, the information being stored together with information of the sampling point and time of sampling. The recording system would be checked only by the international inspectors.

The heart of the monitoring system would be a simulated model of the facility, for comparison of data collected at different points in the facility with the production plan. The simplest part of the model would only ascertain that material flow into and out of the facility is consistent with the plan. A more sophisticated part would compare the temperature and pressure profiles, reaction times, and quantities of the reactants, etc., with the Master Record for the planned product. Depending on the Treaty, any significant deviations observed could be automatically reported to the international control organization via telephone or satellite link.

3.2. Personnel

Facility personnel would have to be carefully selected and trained to a high level of operational reliability and safety. The number of workers and the education required will depend largely on the scope of the facility. If new production processes, methods and compounds are to be developed, a larger number of highly educated individuals will be needed. However, if the facility is only to produce known agents and their precursors by known processes, the number of workers can be much smaller. In this case the profile of the personnel of the facility might be as follows: 5 of manager level, 8 other academic, 30 technical and 20 others.

3.3. Location

Safety requirements will play a dominant role when considering a location for the facility. It must not be situated too close to any settlement considering the possible severe consequences if toxic emissions were to escape the facility.

Safe transport from the production facility to laboratories using agents is also an important factor. Unnecessarily long distances should therefore be avoided.

If new processes, methods and compounds are to be developed, the facility should preferably be in close proximity to a basic research resource having available more sophisticated instrumentation and specialists in various branches of chemistry, pharmacy and medicine.

4. Comments

This paper describes some features of a small-scale facility for the production of chemical warfare agents and their precursors in aggregate quantity of one metric ton per year.

Centralization of the production of super-toxic compounds in a single production plant in the territory of each State Party would facilitate the arrangement of adequate verification. As described here, the capacity of the facility has for practical reasons been allowed to exceed the limit of permitted production; monitoring would in this case have to be more stringent and would be quite expensive.

If the need for agents could be reduced to a few kilograms per year, only laboratory-scale production (less than 100 g per batch) would be needed and this would provide a much more economical alternative. In this case there would be no need for routine on-site verification, because there would be no possibility for a production of militarily relevant amounts of agents. A simple reporting procedure would be sufficient. Economic restraints make this perhaps the only reasonable alternative for small countries.

If all compounds for permitted purposes were to be produced in one facility the number of compounds might well become too large to be reasonably produced. In addition transportation problems would arise in countries of large geographical area (CD/CW/WP.89). This problem might be overcome by allowing truly civilian production in additional properly controllable facilities.

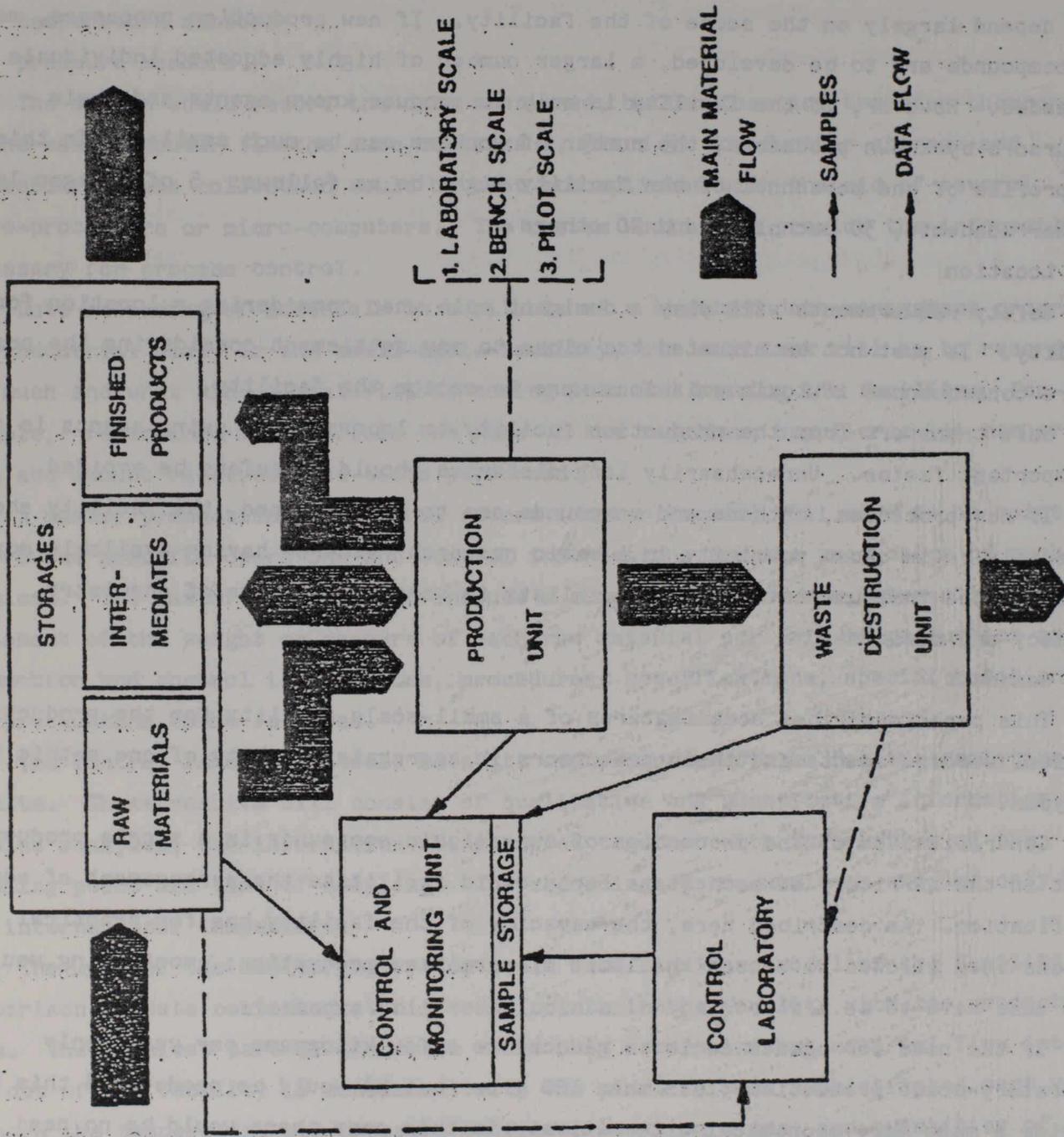
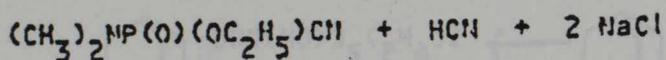
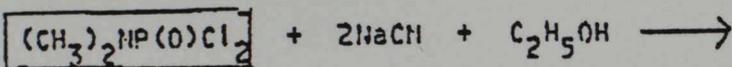
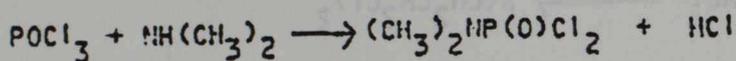


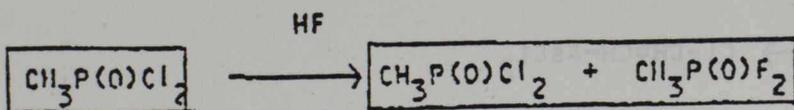
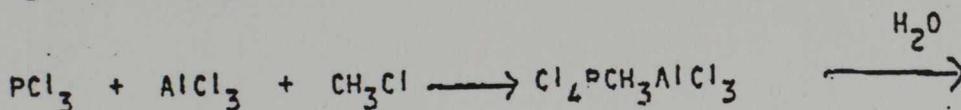
FIGURE 1. SCHEMATIC PRESENTATION OF A FLEXIBLE SMALL SCALE PRODUCTION UNIT FOR CW-AGENT PRODUCTION

Fig. 2. Examples of syntheses

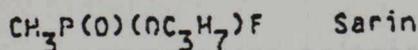
Tabun



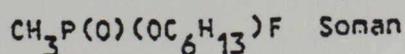
G Agents (Sarin, Soman)



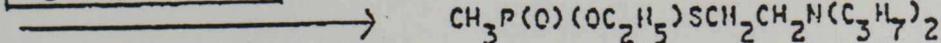
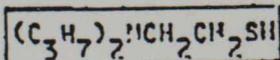
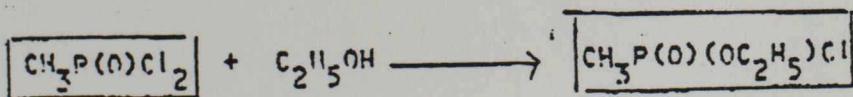
isopropanol



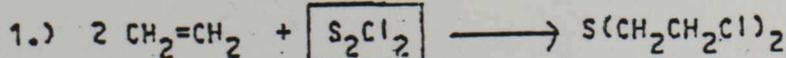
pinacolyl alcohol



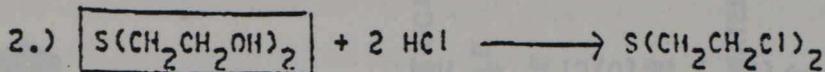
V Agents (VX)



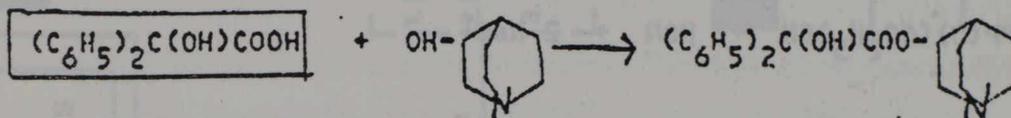
Mustard



or



BZ



Lewisite



Compounds in rectangles are precursors. A more complete list can be found in CD/514.

FIGURE 1. SCHEMATIC PRESENTATION OF A FLEXIBLE SMALL-SCALE PRODUCTION UNIT FOR CW-MOXY PRODUCTION

MEMORANDUM FOR THE RECORD

DATE: 10/15/54

TO: SAC, NEW YORK

RE: [Illegible]

[The remainder of the document contains several paragraphs of text that are extremely faint and illegible due to the quality of the scan. The text appears to be a memorandum detailing an investigation or report.]

CONFERENCE ON DISARMAMENT

CD/CW/WP.93

22 January 1985

ENGLISH

Original: SPANISH

AD HOC COMMITTEE ON CHEMICAL WEAPONS

SPAIN

Working Paper

Production facilities: control of multinationals

Introduction:

Many Working Papers have been submitted in the Ad Hoc Committee on Chemical Weapons concerning control of the production of such weapons, and many efforts have been made to establish reliable and mandatory verification systems for the countries parties to the treaty under consideration.

Nevertheless, the Spanish delegation wishes to raise a problem that has not been sufficiently discussed and is highly important if we are to prevent a proliferation of chemical weapons during and following the destruction process, which is when the treaty will become genuinely effective and efficacious: this problem is control of the establishment of production facilities in countries not parties to the treaty.

Activities of multinationals

It is a common practice for multinational corporations in the chemical industry to carry out foreign investments in order to reduce production costs; these investments are sometimes confined to know-how, in other words, production under licence using the corporation's own patents.

The choice of the country in which plants are set up is sometimes guided by the desire to elude restrictive legislation in the headquarters country and therefore to locate them in places where legislative restrictions are less well defined or means of control are less sophisticated: elementary laboratories or laboratories equipped with modern analytical instruments but where the data stores of the microprocessors linked to the analyzers do not contain the necessary data for certain requisite delicate detection purposes.

There would be little point in creating a sophisticated verification system consisting of a combination of national and international means in order to prevent proliferation or ensure compliance with a chemical weapons treaty if the multinational corporations to be controlled set up subsidiaries for the manufacture of pesticides, herbicides, insecticides, pharmaceutical products and so forth, and have the possibility of maintaining technologies and stocks of key precursors, in small independent or newly-independent countries, countries not parties to the treaty or other countries which have neither the means nor the organization nor the interest to ensure effective control.

Possible solutions

1. Declaration by States where multinational corporations are located which produce or have in the past produced chemicals of high or average toxicity in amounts of one tonne or more, indicating:
 - (a) Name and structural formula of the product or products;
 - (b) Name of the firm or organization operating the facility in the State making the declaration;
 - (c) Full postal address of the place where the facility is located, together with clear geographical co-ordinates;
 - (d) Whether the chemical is exclusively intended for internal use or also for export;
 - (e) The State or States to which the chemical is exported, if applicable;
 - (f) The State or States in which the company has made investments to set up subsidiaries;
 - (g) Nature and intended purposes of such investments;
 - (h) Whether the chemical is manufactured in a special-purpose facility or in batches;
 - (i) If manufactured in a special-purpose facility, maximum annual capacity in tonnes;
 - (j) If manufactured in batches, amount (weight in tonnes) produced in the previous calendar year;
 - (k) Whether the chemical is stored in the facility, and if so, maximum storage capacity (tonnes);
 - (l) Whether the chemical is used in a process.
2. Institution of national and international control over some raw materials exported to countries where subsidiaries are established, if such countries are not parties to the treaty.

Final Report Submitted to the
Army for the Test of
25 January - 1 February 1965

SECRET

CD/CW/WP.94

Preliminary Programme of
Work for the Week of
28 January - 1 February 1985

25.1.85

NOT REPRODUCED

CONFERENCE ON ENLIGHTENMENT

CONFERENCE ON DISARMAMENT

CD/CW/WP.95

31 January 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

by

the Chairman of the Ad Hoc Committee
on Chemical Weapons

Questions and answers regarding CD/CW/WP.89, 14 January 1985, Discussion basis regarding "Permitted Activities"

One delegation put questions regarding WP.89. These questions, as interpreted by the Chairman of the Ad Hoc Committee on Chemical Weapons, as well as the answers given by the Chairman, are presented below in order that the information shall be kept available for the future negotiations on chemical weapons. The questions and answers should be read in conjunction with WP.89.

Production of "laboratory quantities" of "super-toxic lethal chemicals"

Question: Would the production of chemicals in laboratory quantities for research and medical purposes take place only in laboratories or also in other commercial facilities?

Answer: Such production should be confined to laboratories, be it governmental, university or commercial laboratories. Each Government would in this approach have to approve the laboratories according to paras. II 1a, II 1b and II 2a in WP.89.

Question: Will the laboratories of governmental institutions and commercial enterprises, which, in accordance with the document, would be permitted to produce super-toxic lethal chemicals in laboratory quantities, be an organic integral part of the institutions and enterprises?

Answer: Yes, they might be.

List of super-toxic lethal chemicals
and production of such chemicals

Question: Would a limit of 10-100 grams mean that this is the aggregate maximum yearly quantity permitted for a laboratory, or that it is the maximum quantity for one synthesis?

Answer: As was exemplified during the preceding consultations, it is sometimes difficult to carry out the preparation of a compound on a very small scale. If the limit would refer to the yearly aggregate quantity of all compounds synthesized at a laboratory, then micro-scale preparative methods would have to be used if many compounds were to be prepared. Hence the limit should apply to the yearly aggregate quantity of each single compound. This would imply that a laboratory would be able to carry out at least one synthesis every year of each compound it might need for peaceful research or medical purposes.

Question: Regarding the list mentioned in WP.89 of super-toxic lethal chemicals (stlc) for protective purposes it mentions only a few well known such chemicals. Would only stlc:s mentioned in a list, or also others, be produced in a small-scale facility for protective purposes?

Answer: Production for protective purposes should be restricted to compounds included in the list.

Question: What criteria are to be applied when constructing such lists of super-toxic lethal chemicals?

Answer: The definition of chemical weapons includes super-toxic lethal chemicals. Some of these are known to be chemical warfare agents, and should be included in the list. Other compounds might now, or at a later stage, be shown to possess toxicological and physico-chemical properties, which would make them well-suited for military use. Such compounds should also be considered for inclusion in the list. Another criterion could be the perceived lack of possible peaceful uses of a compound.

Question: Would the list be open-ended?

Answer: Yes, the list would be subject to changes agreed to by the appropriate procedure under the convention.

Question: It is one thing to prepare a list now, another thing to prepare it after the States Parties to a Convention have declared their stocks. When is the list to be produced?

Answer: A provisional list could be produced before the Convention enters into force. Such a list would be subject to changes agreed to by the appropriate procedure under the Convention. One reason for addition would be that States Parties to the Convention declared possession for military purposes of compounds not included in a provisional list.

Question: Which role shall the list have?

Answer: Identify compounds to be produced in a small-scale production facility for protective purposes and in laboratory quantities for research and medical purposes.

Question: Could the list really be exhaustive?

Answer: No, but a list would hopefully contain all compounds which constitute major possible threats.

Question: If the list is not exhaustive, could that not be used by some States Parties as a pretext for producing novel compounds anywhere?

Answer: No, not anywhere. Only at declared production facilities, to be subject to agreed verification measures.

Question: Shall it be possible to produce substances not on the list anywhere and in any quantities?

Answer: According to WP.89 II 1b such production shall take place in declared production facilities, submitted to verification.

Question: Nothing is stated in the answer about quantity limitations for the production of super-toxic lethal chemicals not included in the list. Would it be possible for States Parties to produce quantities in excess of the aggregate one tonne quantity allowed for permitted purposes?

Answer: A non-specified quantity limit is suggested in WP.89 for the production or other acquisition for protective purposes, not all permitted purposes, of super-toxic lethal chemicals included in the list. In this context, it should be stressed that "protective purposes" is to be understood as protection for military purposes, e.g. development of military detection equipment or military decontamination methods. Other forms of protective purposes, e.g. industrial safety or environmental protection, do not come into this category. WP.89 does not suggest any limitations of the production of super-toxic lethal chemicals, not included in the list, for other permitted purposes, provided the production sites are declared and verified, as pointed out earlier. In WP.89 para. II 1b there are two options for such production sites.

Production of "other lethal and other harmful chemicals"

Question: Other lethal and other harmful chemicals for protective purposes are suggested to be produced at other facilities than a small-scale facility. Which ones?

Answer: According to WP.89 III a and b no difference between facilities for production for protective or for other permitted purposes is made.

Question: Can production of such chemicals for protective purposes continue at such facilities when the Convention enters into force?

Answer: Yes.

Remark: If one adopts this approach, there would be no limitations. Any State Party to a Convention would have the right to produce any "other harmful chemical" in any quantity.

Answer: Yes, because many "other harmful chemicals" are used extensively for peaceful purposes. But the production would be subject to declarations and monitoring in accordance with WP.89 para. III a and b.

Production of "super-toxic lethal chemicals" for other permitted purposes than protective purposes

Question: Can production of super-toxic lethal chemicals for other permitted purposes than protective take place at "civilian" facilities?

Answer: Yes.

Question: How will that be arranged, in physically separated entities or integrated with other production?

Answer: WP.89 contains no suggestions, but arrangements will depend on which verification measures will be agreed.

Question: How shall the verification be carried out at such production facilities? With instruments and inspectors? How often? Inspection of production records?

Answer: WP.89 does not provide any detailed suggestions. This question will have to be negotiated further.

Problems regarding "key precursors"

Question: Which are the parameters to select key precursors which pose special risk? Give one example of a chemical which is widely used in the chemical industry and at the same time is a key precursor.

Answer: Definitions of key precursors have been discussed extensively but not yet been agreed upon. It is referred to various Working Papers on this issue. In most of them it is presupposed that a key precursor shall have little civilian use. In WP.89, II 2d a provision has been made which should cover key precursors which pose a particular risk to the convention and are widely used in the chemical industry. Examples of such chemicals can be found in CD/514.

Question: On what basis are not only methyl-phosphorus bond compounds but also ethyl-phosphorus bond compounds included in WP.89, II 2b?

Answer: Ethyl-phosphorus compounds can give rise to almost as many toxic compounds as methyl-phosphorus compounds.

Question: Theoretically, ethyl-phosphorus bond compounds could be used as chemical warfare agents, but we do not know if they are used for those purposes. Is it justified to apply the same approach in the case of methyl-phosphorus bond compounds and ethyl-phosphorus bond compounds, taking into consideration also the fact that the ethyl-phosphorus compounds are used very widely in peaceful industry in contrast to methyl-phosphorus compounds?

Answer: The mere fact that certain ethyl-phosphorus bond compounds could be used as key precursors or otherwise be starting materials for super-toxic lethal chemicals with a possible military efficiency approaching that of well-known nerve agents, justifies the same approach as in the case of methyl-phosphorus bond compounds. Although presently ethyl-phosphorus bond compounds are more widely used than methyl-phosphorus bond chemicals in some countries, this situation might change. Unless one wants to interfere with the economic and technological development of States Parties to the Convention, provisions must be made for the possibility of a more wide-spread peaceful use than today of methyl-phosphorus bond compounds. If the peaceful use of methyl- or ethyl-phosphorus bond compounds in a State Party is or becomes extensive, it might be difficult to have the whole production confined to a single small-scale production facility. The State Party could choose the second option outlined in CD/CW/WP.89 and produce the compounds in the chemical industry, but of course then subject to stipulated verification provisions.

Question: Shall verification of production of methyl-phosphorus compounds in the chemical industry be the same as for such production in a small-scale production facility?

Answer: In WP.89 II 2e is presupposed a correspondingly effective verification in both cases, although not elaborated in detail.

CONFERENCE ON DISARMAMENT

Final Report of the Conference

Final Report of the Conference on Disarmament
of the United Nations
1978-1979

This report is a further elaboration of the work done by the Conference on Disarmament of the United Nations during its sessions of 1978 and 1979. It is the result of the work done by the Conference on Disarmament of the United Nations during its sessions of 1978 and 1979. It is the result of the work done by the Conference on Disarmament of the United Nations during its sessions of 1978 and 1979.

- a) The functions of the Conference shall be to:
- b) to further, through its subsidiary organs, the work of the Conference on Disarmament of the United Nations, as provided in the Charter of the United Nations;
- c) to provide, through its subsidiary organs, such assistance as may be required for the implementation of the Conference's programme of work;
- d) to further, through its subsidiary organs, the work of the Conference on Disarmament of the United Nations, as provided in the Charter of the United Nations.

It is understood that the documents of the Conference on Disarmament of the United Nations shall be stored in the United Nations Library and shall be available to all States Parties to the Conference.

It is understood that the work done by the Conference on Disarmament of the United Nations shall be made available to all States Parties to the Conference.

Ad Hoc Committee on Chemical Weapons

Working Paper prepared on the basis of consultations
on the "Functions of the Consultative Committee and
some other questions concerning the Consultative Committee
and its subsidiary organs"

This paper is a further elaboration of the views contained in the relevant parts of Annex II of CD/539 and Corr.1. It reflects the outcome of the consultations held by Dr. H. Thielicke (German Democratic Republic) on behalf of the Chairman of the Ad Hoc Committee during the period 14 January - 1 February 1985. It is presented in order to facilitate further work on the issues involved. While taking into account the views expressed in the consultations, it does not commit any delegation.

3. The functions of the Committee shall be:

.....

- e) to further specify procedures for exchange of information, for declarations and for technical matters related to the implementation of the Convention, as contained in of the Convention;
- f) to receive, keep and make available^{*/} to States Parties declarations, plans and notifications presented by States Parties in accordance with Articles
- g) to further specify procedures for the conduct of systematic international on-site verification^{**/};

^{*/} It is understood that the declarations, plans and notifications referred to will be stored by the Technical Secretariat and made available to all States Parties to the Convention.

^{**/} It is understood that basic procedures for the conduct of systematic international on-site verification to be carried out in accordance with Articles would be contained in the Convention. After the entry into force of the Convention, these procedures will be tailored by the Consultative Committee and its subsidiary organs to each facility subject to systematic international on-site inspection.

- h) oversee and carry out systematic international on-site verification in accordance with Articles
- i) to receive and consider requests for fact-finding procedures and to conduct such procedures in accordance with Article^{*/};
- j) to cooperate closely with the national authorities of States Parties assigned to implement the Convention^{**/};
- k) to facilitate consultations and cooperation among States Parties at their request by means of rendering services to them with regard to:
 - (i) holding consultations among them;
 - (ii) exchanging information;
 - (iii) providing technical assistance;
 - (iv) obtaining services from appropriate international organizations;
 - (v) participating in on-site inspections arranged among the States Parties;
- l) to oversee the activities of its subsidiary organs;
- m) to receive and consider the reports of the Executive Council containing information on the operation and implementation of the Convention^{***/};
- n) to consider and decide upon administrative and financial matters and approve the budget.

^{*/} It is understood that this function will include verification of complaints on the use of chemical weapons. Different views have been expressed concerning the implementation of fact-finding procedures.

^{**/} It is understood that guidelines would be established for such national authorities as well as procedures governing cooperation between the Consultative Committee and the national authorities. Cooperation between the Committee and national authorities may include regular meetings between the Consultative Committee and the national bodies, the training of the personnel of the national bodies by the Consultative Committee as may be required, assistance to be provided by national bodies to the international inspectors.

^{***/} It is understood that the reports of the Executive Council would contain information on accession to the Convention, implementation of it, recommendations on particular technical matters and the factual report on the work done by the Executive Council and the Technical Secretariat between the sessions of the Consultative Committee.

12. The functions of the Executive Council shall be:*/

.....

In the intervals between the sessions of the Committee, issues pertaining to the implementation of the Convention shall be dealt with by the Executive Council. It shall have delegated authority to discharge the functions of the Consultative Committee as set out in sub-paras [3f, h, i, j and k], as well as to perform any other functions entrusted to it by the Committee. The Council shall report to the Committee at its regular session on the exercise of these functions.

*/ Here the routine functions of the Council may be listed, i.e. for example to act as the executive organ of the Consultative Committee; to supervise the work of the Technical Secretariat; to prepare recommendations for the Consultative Committee on procedural, administrative and financial matters.

15. The Council shall be able to convene at short notice and to function continuously. Each member of the Council shall for this purpose be represented at all times at the seat of the Consultative Committee.
17. The Executive Council may set up such subsidiary organs as may be necessary for its work.
20. The staff of the Secretariat shall be chosen among nationals of States Parties to the Convention. It shall consist of such qualified scientific and technical and other personnel as may be required to fulfil the functions of the Consultative Committee. Due regard shall be paid to the importance of recruiting the staff on the basis of the principle of equitable political and geographical representation of the States Parties to the Convention. The Consultative Committee shall seek to keep the number of the Secretariat personnel as low as possible. The paramount consideration in the recruitment and employment of the staff and in the determination of their conditions of service shall be the necessity of securing the highest standards of efficiency, competence and integrity.*

*/ It is understood that other matters connected with the establishment of the Secretariat should be considered by the Preparatory Commission, which should make appropriate recommendations to the Consultative Committee.

CH/CW/VP

Report of the Ad Hoc
Committee on Unethical
Practices in the
Period
14 January - 1 February
1985

1985

SECRET

CD/CW/WP.97

Report of the Ad Hoc
Committee on Chemical
Weapons on Its Work
During the Period
14 January - 1 February
1985

Also issued as
CD/546
1 Feb. 1985

NOT REPRODUCED

CONFERENCE ON DISARMAMENT

1964

1. The Conference on Disarmament was convened in Geneva on 24 January 1978.

2. The Conference was established by the General Assembly of the United Nations in its resolution 3286 (XXIX) of 20 December 1974.

3. The Conference is the only multilateral disarmament forum established by the United Nations.

4. The work of the Conference is guided by the principles set forth in the Declaration of Principles on Disarmament, adopted by the Conference on 20 November 1978.

5. The Conference has held several sessions, during which it has discussed a wide range of disarmament issues, including nuclear disarmament, conventional disarmament, and arms control.

6. The Conference has also held a number of informal consultations and working groups to facilitate dialogue and cooperation among its members.

7. The Conference has achieved significant progress in the area of nuclear disarmament, including the adoption of the Treaty on the Prohibition of Nuclear Weapons (TPNW) in 2017. The TPNW is the first legally binding instrument to prohibit nuclear weapons, categorically, and to require their elimination. The Conference has also adopted several other resolutions and declarations on nuclear disarmament, including the 1978 Declaration of Principles, the 1995 Declaration on the Elimination of Nuclear Weapons, and the 2000 Declaration on the Elimination of Weapons of Mass Destruction.

CONFERENCE ON DISARMAMENT

CD/CW/WP.98
27 February 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

by

The Chairman of the Ad Hoc Committee on Chemical Weapons

Outline for the organization of work during the 1985 session

The work of the Ad Hoc Committee will be carried out according to the mandate adopted by the Conference on Disarmament on 7 February, 1985 contained in document CD/551.

According to the recommendations contained in the 1984 report of the Ad Hoc Committee (CD/539, para. 12 (a) and (b)), the Ad Hoc Committee will continue the negotiations and further elaboration of the Convention utilizing Annex I, Annex II of CD/539 and other relevant present and future Conference documents on the subject.

The Chairman will make the widest possible use of the experience gained so far in the work of the Committee.

Taking into account the views expressed by delegations during the consultations undertaken on bilateral and multilateral basis, it is proposed to retain the basic structure of the Committee as established during the 1984 sessions of the Committee. The structure has proved to be a good basis for expedient work of the Committee. It is proposed to concentrate the efforts of the Working Groups on consideration, clarification and finding generally acceptable formulations of specific problems which, at this stage, have key importance for the elaboration of the Convention. The consultations enabled the Chairman to identify the following terms of reference for the Working Groups:

Working Group 'A'

Chairman: Mr. P. Poptchev (Bulgaria)

Scope, Definitions, Non-Production, Permitted Activities

1. Permitted Activities regarding various categories of chemicals.
2. Laboratories, small-scale production facilities, industrial production facilities, their role in the permitted activities.
3. Definitions to be included in the Convention.
4. Principles and methods of declarations and verification with regard to the activities of the small-scale production facility.
5. Principles and methods of declarations and verification with regard to the activities of the industrial production facilities.

Working Group 'B'

Chairman: Mrs. E. Bonnier (Sweden)

Elimination of stocks and production facilities

1. Declarations, plans and notifications.
2. Order of destruction of stocks; its practical implementation.
3. Destruction facility/facilities.
4. Principles and methods of verification with regard to the destruction of stocks.
5. Principles and methods of verification with regard to the elimination (destruction, dismantling, conversion, etc.) of production facilities.

Working Group 'C'

Chairman: Mr. F. Elbe (Federal Republic of Germany)

Compliance

1. Institutional aspects of compliance.
2. Consultation and co-operation.
3. Principles and methods of fact-finding including on challenge verification.
4. Interaction between the national and international organs of verification of compliance.

Subject to be considered at the open-ended consultations of the Ad Hoc Committee:
Chaired by Mr. N. Wisnoemoerti (Indonesia)

Prohibition of use of chemical weapons and problem of herbicides.

Among the important issues of the general area of scope of the future Convention which have already been discussed, but which require more thorough elaboration, are the problems of prohibition of use of chemical weapons and of herbicides. A number of delegations attach particular importance to these issues and express a strong desire to achieve soon more substantial progress on them. Therefore it is proposed to take up these issues separately, that is outside the framework of the Working Groups, and to give them a status similar to the subjects considered by the Working Groups. The consideration of these issues will be held in open-ended consultations of the Ad Hoc Committee.

It is proposed to concentrate the Committee's attention on the subjects mentioned above. However, if during the negotiations the delegations feel a need to raise other subjects, appropriate arrangements will be made for their consideration.

In fulfilling the mandate of the Ad Hoc Committee, the Working Groups will proceed on the basis of the terms of reference given above, further developed by their respective Chairmen.

As a result of considerations of the Working Groups, their Chairmen will present, either at the successive Committee meetings or in their final reports to the Committee, provisional common understandings or if possible generally acceptable formulations of the provisions of the Convention.

The process of drafting of these formulations is composed of several subsequent phases, from the exploration of problems through identification of various positions and viewpoints and their elaboration, to the stage when common understandings are reached. All of these phases are indispensable elements of the whole process.

During the proceedings of the Working Groups and of the Committee, various informal consultations among the delegations which have expressed an interest in a given subject or a desire to participate in them, will be an important factor conducive to fruitful work. These consultations will undoubtedly have a positive influence on the Committee's work by enabling the necessary compromises, thus permitting harmonization of different views.

Subsequent stages of this entire process should lead, most preferably, to agreed formulations. The actual drafting could take place in the Working Groups themselves; it might also be undertaken in open-ended groups organized by the Chairmen of the Working Groups or by the Chairman of the Committee. In this context due account should be taken of the preliminary structure of the Convention. It seems appropriate not to adopt any rigid formal arrangement but rather to be flexible, thus permitting the elaboration of the most suitable form of drafting at a given stage of the Committee's work.

Since there exists a close connection and even partial overlap of the subject matters proposed to be considered by the respective Working Groups, it is advisable that the Chairmen of the Working Groups take into account this relationship and co-operate closely in order to facilitate each other's work.

The Ad Hoc Committee would be meeting in principle every second week. During these meetings the Committee will hear reports of the Chairmen of the Working Groups and take up any issues deemed important by the delegations.

In submitting this outline for the organization of work of the Ad Hoc Committee during the 1985 session, the Chairman need not recall the great expectations and importance attached by States to progress in negotiations on the Convention.

In connection with the recommendation adopted by the Conference on Disarmament (CD/539, para. 12 (e)), to take an early decision on the continuation of the process of negotiation on the Convention after closure of the 1985 session of the Conference, the Chairman intends to take up this matter as soon as possible.

Ad Hoc Committee on Chemical Weapons

WORKING GROUP A

Chairman's Basic Working Paper

1. REGIMES OF PERMITTED ACTIVITIES FOR DIFFERENT CATEGORIES OF CHEMICALS
2. LABORATORIES, SMALL-SCALE PRODUCTION FACILITIES AND INDUSTRIAL PRODUCTION PLANTS: THEIR ROLE IN PERMITTED ACTIVITIES
CD/539, Annex I, page 15, section VI

VI. PERMITTED ACTIVITIES

.....

1. Super-toxic Lethal Chemicals

- (a) a limitation to an amount which is the lowest possible and in any case does not exceed one metric ton of the aggregate quantity of super-toxic lethal chemicals [and their precursors] [and key components of binary systems] produced, diverted from stocks, or otherwise acquired annually or possessed at any one time [for protective purposes] [for all permitted purposes];
- (b) a limitation of the production of these chemicals to a single small-scale facility having a capacity limit of ...;

[(f) a prohibition of production and use of listed super-toxic lethal chemicals, except for the production and use of such chemicals in laboratory quantities, for research, medical, or protective purposes at establishments approved by the Party.]

.....

[2. a prohibition of the production of compounds with methyl-phosphorus bond in commercial production facilities [and to restrict such production to the single small-scale facility].]

.....

4. Key precursors [which are not key components of binary systems and/or which do not contain methyl-phosphorus bond]

[5. Precursors (to be elaborated)]

Questions for discussion

I. Identification of supertoxic lethal chemicals/their precursors/their key precursors/key components of binary systems

1. Identification of these categories of chemicals on the basis of the general-purpose criterion and the toxicity criterion; on the basis of lists.
2. Applicability of these criteria/lists:

to precursors;

to key precursors which are already known, and to those which may appear in future;

to supertoxic lethal chemicals used for chemical weapons, to those which are not used for chemical-weapon purposes, and to those which may appear as a result of accidental synthesis;

to key components of binary chemical systems which are already known, and to those which may appear in future.

II. Limitation on the amount of chemicals which may be produced, diverted from stocks, otherwise acquired or possessed at any moment for protective/permitted purposes

Supertoxic lethal chemicals;

Key components of binary chemical systems;

Key precursors;

Compounds with the methyl-phosphorus and ethyl-phosphorus bond;

Precursors.

III. Limitation on scale or prohibition of production of chemicals

1. In industrial enterprises:
 - (a) Supertoxic lethal chemicals used for chemical-weapon purposes, those which are not used for chemical-weapon purposes, and those which may appear in future;
 - (b) Key components of binary chemical systems which are already known, and those which may appear in future;
 - (c) Key precursors which are already known, and those which may exist in future;
 - (d) Compounds with the methyl-phosphorus and ethyl-phosphorus bond;
 - (e) Precursors.

2. In the small-scale facility with limited capacity:
(On subparagraphs (a), (b), (c) and (d) above).

3. In laboratories:

Independent laboratories;

Laboratories which are part of an industrial enterprise.

(On subparagraphs (a), (b), (c) and (d) above).

IV. Limitation on the place of use of supertoxic lethal chemicals, key components of binary chemical systems, key precursors, compounds with the methyl-phosphorus and ethyl-phosphorus bond, and precursors produced in industrial facilities, the small-scale facility or laboratories

(a) Use on site of production;

(b) Transfer to other facilities and establishments;

(c) Commercial use.

1900-1901
The following is a list of the
names of the persons who
were present at the
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1900 at the residence
of Mr. J. H. [Name]
at [Address]

Present
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[Name]
[Name]

UK CD/CW/WP.100 Verification of Non-
Production of Chemical
Weapons: Proposals for
Inspection Procedures
and Data Exchange

Also issued
as CD/575
6 March 1985

NOT REPRODUCED
(see WP volume)

CONFERENCE ON DISARMAMENT

Ad Hoc Committee on Chemical Weapons

WORKING GROUP C

Chairman's Working Paper on the programme of work; exploration of problems through identification of various positions and viewpoints relating to compliance

Questions for discussions

I.

Institutional aspects of compliance

1. What kind of organ of a future convention shall deal with issues of compliance?

- (a) The Consultative Committee as the principal body of the convention,
- (b) one and more suborgans of the Consultative Committee, i.e. the Executive Council or the Technical Secretariat,
- (c) and/or a special suborgan dealing exclusively with specific issues of compliance (on-challenge verification).

2. What criteria and principles shall be applied as to the composition of any of the above-mentioned organs or suborgans?

- (a) number of members,
- (b) criteria of political and/or geographic balance,
- (c) procedures for election,
- (d) duration of membership,
- (e) rotation.

3. What principles shall govern the relationship between the various organs of the convention?

4. What rules shall be applied to the decision-making process of any organ of the convention?

- (a) consensus,
- (b) majority,
- (c) qualified majority, i.e. two-third majority.

II.

Consultation and Co-operation

1. What procedures should apply to consultations and co-operation on matters relating to the objectives or the implementation of the provisions of the convention?

- (a) direct consultation and co-operation among States Parties,
- (b) consultation and co-operation through the Consultative Committee,
- (c) consultation and co-operation through other appropriate international procedures, including procedures within the framework of the United Nations.

2. What principles shall govern procedures to clarify and resolve, through bilateral consultations, any matter which may cause doubt about compliance with the convention, or which gives rise to concerns about a related matter which may be considered ambiguous?

3. What influence would a system of political crisis management exercise on the issue of compliance?

- (a) What are the objectives of a political crisis management within a future CW-convention?
- (b) What are the methods and principles of a political crisis management?
- (c) What are the organizational aspects of a political crisis management?

III.

Principles and methods of fact-finding, including on-challenge verification

1. What reflections and views can be introduced to ensure non-routine verification of compliance with the provisions of the convention by the application of fact-finding procedures including on-site inspections?

- (a) on a voluntary basis,
- (b) on a mandatory basis,
- (c) or on the basis of a stringent obligation to permit such inspection, taking into account, however, a right of refusal for most exceptional reasons.

2. What procedural methods should be applied to fact-finding?

3. What procedures shall apply if the efforts under the convention to clarify and resolve a situation considered to be ambiguous or which gives rise to suspicion about actions in breach of obligations under the convention should fail?

IV.

Interaction between national and international
organs of verification of compliance

1. What is the relationship between domestic implementation measures and international means of verification? Which of the two should be subsidiary to the other?
2. Can national implementation measures be construed in such a manner that they could reduce the level of intrusiveness of international verification?

Ad Hoc Committee on Chemical Weapons

Working Group B on the Elimination of Stocks and Production Facilities

Chairman's Working Paper on the Agenda for the meetings on March 20 and March 27

CD/539 (Annex I, Chapters III and IV) contains the foundations on which to build the future work as regards the question of elimination of stocks. The next three/four meetings of Working Group B will be devoted to this issue and be focused on some of the major problems involved.

For the meetings on March 20 and 27 the following agenda is envisaged.

1. Proposals by the Chairman on how to deal with the outstanding issues.
2. Short and general introductory comments in order to "take stock" of where we stand.
3. In-depth discussion of one of the major outstanding issues, i.e. the concepts of elimination through destruction and/or diversion.

The following questions have been formulated to help structure the discussion under agenda item 3 above. They are by no means exhaustive and other related questions can of course be raised by any delegation.

Diversion for permitted purposes

- What precisely is meant by diversion in this context?
- Which types of chemical weapons could be eliminated by means of diversion?
- Which measures could be considered applicable in elimination through diversion?

- declaration of location of stocks and plants?
- declaration of types of operation, capacity and end products?
- verification of stocks intended for diversion?
- verification of the elimination?
- other?

Destruction

- Principles and methods of verification of the destruction of
 - super-toxic lethal chemicals
 - other chemicals
- Possible link between verification methods and the design of destruction facilities.
- The possible role of the Technical Secretariat in designing destruction facilities.
- Conversion of chemical weapons production facilities into destruction facilities.

CONFERENCE ON DISARMAMENT

1945-1946
1947-1948
1949-1950
1951-1952

MEMBERS OF DISARMAMENT

1. Mr. [Name] of [Country]

MEMBER OF DISARMAMENT

Chairman of the Committee

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CONFERENCE ON DISARMAMENT

CD/CW/WP.103
22 March 1985

ENGLISH
Original: RUSSIAN

CONFERENCE ON DISARMAMENT

Ad Hoc Committee on Chemical Weapons

WORKING GROUP A

Chairman's basic document

1. REGIMES OF PERMITTED ACTIVITIES FOR DIFFERENT CATEGORIES OF CHEMICALS
 2. LABORATORIES, SMALL-SCALE PRODUCTION FACILITIES, INDUSTRIAL PRODUCTION FACILITIES: THEIR ROLE IN PERMITTED ACTIVITIES
- CD/539, Annex I, p. 15, section VI

VI. PERMITTED ACTIVITIES

.....

.....

3. Other Lethal and Harmful Chemicals.

- (a) ... [according to the level of risk posed by particular chemicals whether per se or as precursors];
- (b) ... [of certain other lethal and harmful chemicals deemed to pose a particular risk.]

.....

5. Precursors [to be elaborated]

Questions for discussion

I. Other lethal chemicals

1. Identification of this category of chemicals on the basis of the general-purpose criterion and the toxicity criterion/on the basis of the level of risk/on the basis of lists.

2. Applicability of these criteria/level of risk/lists:

To other lethal chemicals used for chemical weapons, to those which are not used for chemical-weapon purposes, and to those which may appear in future;

To precursors of other lethal chemicals.

3. Limitation on the amount of chemicals which may be produced or otherwise acquired:

Other lethal chemicals;

Their precursors.

4. Limitations on scale or prohibition or production:

Of other lethal chemicals;

Of their precursors.

5. Limitation on the place of use:

Use on-site of production;

Transfer to other facilities or establishments;

Commercial use.

II. Harmful chemicals

1. Identification of this category of chemicals on the basis of the general-purpose criterion and the toxicity criterion/on the basis of other criteria/on the basis of the level of risk/on the basis of lists.

2. Applicability of these criteria/level of risk/lists:

To harmful chemicals used for chemical weapons and to those which may appear in future;

To precursors of harmful chemicals.

3. Limitation on the amount of harmful chemicals which may be produced or otherwise acquired:

Harmful chemicals;

Their precursors.

4. Limitation on the place of use:

Use on site of production;

Transfer to other facilities and establishments;

Commercial use.

Ad Hoc Committee on Chemical Weapons

ANNEX I

Chairman's Initial Report
to the Conference

Submitted to the Conference
on 10 October 1992

1. Introduction

The Ad Hoc Committee on Chemical Weapons was established by the Conference on Disarmament in 1980. Its mandate is to study and report on the progress of negotiations for a convention on the prohibition of the development, production, stockpiling, transfer, use and threat of use of chemical weapons.

The Committee has held several sessions and has produced a number of reports. It has also conducted extensive consultations with States Parties to the Convention on the Prohibition of Chemical Weapons (CWC) and other interested States. The Committee's work has been guided by the principles of transparency, inclusiveness and consensus.

The Committee's initial report, submitted to the Conference in 1992, set out the Committee's work plan and its findings. It also proposed a number of measures to be taken to facilitate the negotiations for a convention on the prohibition of chemical weapons.

The Committee's work plan includes the following items:

- (a) To continue to study and report on the progress of negotiations for a convention on the prohibition of chemical weapons.
- (b) To continue to conduct extensive consultations with States Parties to the CWC and other interested States.
- (c) To continue to promote transparency and inclusiveness in the negotiations.
- (d) To continue to promote consensus in the negotiations.

The Committee's work plan also includes the following items:

- (e) To continue to study and report on the progress of negotiations for a convention on the prohibition of chemical weapons.
- (f) To continue to conduct extensive consultations with States Parties to the CWC and other interested States.
- (g) To continue to promote transparency and inclusiveness in the negotiations.
- (h) To continue to promote consensus in the negotiations.

CONFERENCE ON DISARMAMENT

CD/CW/WP.104^{*/}
4 April 1985

ENGLISH
Original: RUSSIAN

Ad Hoc Committee on Chemical Weapons

WORKING GROUP A

Chairman's Basic Working Paper

Item 1. REGIMES OF PERMITTED

ACTIVITIES FOR VARIOUS CATEGORIES OF CHEMICALS

CD/416, Annex I, p.15, section III C,1 and 2 CD/CW/WP.67, p.17

C. Permitted transfers

1. Transfer for elimination purposes

(a) An understanding that, by mutual agreement, chemical weapons may be transferred between parties for purposes of elimination;

(b) An understanding that all declaration and verification provisions normally applicable to the elimination of stocks of chemical weapons will also apply to stocks transferred for purposes of elimination with an additional notification to the Consultative Committee immediately before commencement of the transfer.

2. Transfer for other purposes

(a) An undertaking not to transfer super-toxic lethal chemicals or their key precursors to non-Parties;

(b) An understanding to limit transfer to another Party of super-toxic lethal chemicals

and of their key precursors

for permitted purposes

or for protective purposes

to a maximum of

100 grams

or ...

in any 12 month period.

(c) An undertaking by both Parties to submit an advance report to the Consultative Committee for each transfer and an annual summary report of all transfers including in both the chemical names, weights and destination.

*/ Reissued for technical reasons.

Questions for discussion

I. Transfer for elimination purposes

1. Time-frames for transfer for elimination purposes:

Commencement;

End.

2. Link between plans for the elimination of stocks of chemical weapons according to the schedule for elimination (it being understood that that schedule is based on the principle that during the entire stage of elimination no Party ... shall gain any military advantage: CD/539, annex I; p.12) and transfers for elimination purposes:

By a transferring Party;

By a receiving Party.

3. Notification to the Consultative Committee of the commencement of transfer:

By a transferring Party;

By a receiving Party.

4. Periodic/annual reports on progress in the implementation of plans for the elimination of chemical weapons:

By a transferring Party;

By a receiving Party.

5. Notification to the Consultative Committee of the completion of elimination of chemical weapons:

By a transferring Party;

By a receiving Party.

6. Protection of the public and the environment during transfer.

II. Transfer for other purposes

1. Restrictions on the types of chemicals that may be transferred:

(a) Super-toxic lethal chemicals;

(b) Key components of binary systems;

(c) Key precursors;

(d) Compounds with a methyl-phosphorus or ethyl-phosphorus bond;

(e) Other lethal chemicals;

(f) Harmful chemicals;

(g) Precursors.

2. Restrictions on the amounts of chemicals transferable for any permitted purposes/for protective purposes alone:

(Item (a) - (g) above).

3. Restrictions on transfers between Parties alone and/or between non-Parties:

(Item (a) - (g) above).

4. Restrictions on the time-frames for the transfer of chemicals:
(Items (a) - (g) above).
5. Notification of each transfer to the Consultative Committee and annual summary reporting of all transfers with indications of the chemical names, weights and destination by each Party:
(Items (a) - (g) above).

CONFERENCE ON DISARMAMENT

CD/CW/WP.105
12 April 1985

ENGLISH
Original: RUSSIAN

Ad hoc Committee on Chemical Weapons

WORKING GROUP "A"

Chairman's Basic Working Paper

4. PRINCIPLES AND METHODS OF DECLARATION AND MONITORING OF THE ACTIVITIES OF A SMALL-SCALE PRODUCTION FACILITY
5. PRINCIPLES AND METHODS OF DECLARATION AND MONITORING OF THE ACTIVITIES OF INDUSTRIAL PRODUCTION FACILITIES

CD/539, Annex 1, page 15, section VI

1. Super-toxic Lethal Chemicals

...

- (b) a limitation of the production of these chemicals to a single small-scale facility having a capacity limit of ...;
- (c) a notification to the Consultative Committee of the location and capacity of the small-scale production facility within 30 days after entry into force for a State Party, or when constructed later ... days before the date of commencement of operations;
- (d) monitoring of the small-scale production facility by annual data reporting with justification, on-site instruments, and systematic international on-site inspections [periodically] [on a quota basis].

...

- [(e) monitoring of all facilities producing super-toxic lethal chemicals by regular reporting which would include description/justification of the civil uses for which the chemical is produced and systematic international on-site inspection.]

...

3. Other Lethal and Other Harmful Chemicals

- (a) monitoring of production and use by annual data reporting [according to the level of risk posed by particular chemicals whether per se or as precursors];

CONFIDENTIAL

[(b) a declaration to the Consultative Committee of the location of facilities for the production of certain other lethal and other harmful chemicals deemed to pose a particular risk.]

4. Key precursors [which are not key components of binary systems and/or which do not contain methyl-phosphorus bond]

Monitoring by annual data reporting of production and use [and declaration to the Consultative Committee of the location of facilities for the production of key precursors] [and systematic international on-site inspection on a random basis.]

[5. Precursors (to be elaborated)]

Questions for discussion

I. A small-scale facility for the production of super-toxic lethal chemicals/ their key precursors/the key components of binary systems/compounds with methyl-phosphorus bond for all permitted purposes/for protective purposes.

1. Limitation of the production capacity of a small-scale facility:

(a) Maximum production capacity corresponding to the maximum permitted consumption within a period of one year;

(b) Allowable margin of agreed production capacity exceeding the level of permitted consumption within a period of one year;

(c) Production equipment parameters.

2. Declaration of production capacity by categories of chemicals:

- Super-toxic lethal chemicals;
- Their key precursors;
- The key components of binary systems;
- Compounds with methyl-phosphorus bond.

3. Location of a small-scale production facility:

(a) Independent;

(b) As part of a large-scale production undertaking.

4. Time-limits for declaration of a small-scale production facility:
 - (a) Within 30 days after entry into force of the Convention for a State Party;
 - (b) On the date of commencement of operation of the facility;
 - (c) ... days before the date of commencement of operation.
5. Principles and methods of monitoring of the activities of a small-scale production facility:
 - (a) Scope of data to be reported with explanations;
 - (b) Monitoring by means of instruments;
 - (c) Systematic international on-site inspection:
 - periodically;
 - on a quota basis.

II. Industrial production facilities

1. Identification of industrial production facilities by categories:

- (a) Nature of chemicals produced:
 - super-toxic lethal chemicals;
 - key components of binary systems;
 - key precursors;
 - chemicals containing methyl phosphorus and ethyl phosphorus bond;
 - other lethal chemicals;
 - harmful chemicals;
 - precursors.
- (b) Scale of production:
 - laboratory;
 - pilot-plant;
 - large-scale industrial.

2. Declaration of industrial facilities by type of product and scale of production:

- (a) Time-limits for declaration of industrial production facilities:
 - within 30 days after entry into force of the Convention for a State Party;
- (b) Location of facility:
 - on the territory of a State Party;
 - under the authority of a State Party on any other territory;
 - under any other authority on the territory of a State Party.
- (c) Production capacity of the facility.

3. Principles and methods of monitoring the activities of industrial production facilities:

- (a) By submission of periodic reports containing a description/justification of production;
- (b) By submission of statistical data;
- (c) By systematic international on-site inspections:
 - periodically;
 - on a quota basis;
 - on a random basis.

CONFERENCE ON DISARMAMENT

1946-1948
1946-1948
1946-1948

1. The Committee on Chemical Weapons

Working Group I

Article I

The Chairman's suggestion for the preliminary formulation of Article I, which is of a future Convention on Chemical Weapons.

In accordance with the Chairman's suggestion of a Convention on Chemical Weapons, the following articles are suggested by the Chairman of Working Group I.

Article II

Prohibition of Chemical Weapons

Each State Party to this Convention shall have any measures necessary in accordance with the organizational procedure of the Convention and, in addition, shall prohibit and prevent any assisting the production, stockpiling, acquisition, transfer, use, or possession of chemical weapons under the jurisdiction or control.

Ad Hoc Committee on Chemical Weapons

Working Group C

Alternative I

Chairman's suggestions for possible compromise formulations of Articles VII, VIII and IX of a future Convention on Chemical Weapons.

In accordance with the preliminary structure of a Convention on Chemical Weapons as contained in CD/539, Annex I, the following Articles are suggested by the Chairman of Working Group C:

Article VII

National Implementation Measures

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

Article VIII

Consultative Committee

1. The State Parties to this Convention shall establish a Consultative Committee upon entry into force of this Convention. Each State Party to this Convention shall be entitled to designate a representative to the Consultative Committee.
2. The Consultative Committee shall oversee the implementation of this Convention, promote the verification of compliance with this Convention, and carry out international consultations and co-operation among State Parties to this Convention.
3. For the purposes of this Convention it shall:
 - (a) carry out all activities relating to the execution of international measures of verification as specified in this Convention;
 - (b) develop, and revise as necessary, detailed procedures for exchange of information, for declarations and for technical matters related to the implementation of this Convention;
 - (c) review scientific and technical developments which could affect the operation of this Convention.
4. The States Parties to this Convention shall establish an Executive Council composed of representatives of 15 States Parties on the basis of an appropriate geographic balance. The members of the Executive Council shall serve for a three year period, with five of these members replaced each year.
5. The Executive Council shall carry out the functions of the Consultative Committee when it is not in session.
6. The Consultative Committee shall meet in regular session annually; it shall hold extraordinary sessions at the request of the majority of State Parties to this Convention.

7. Any decision of substance of the Consultative Committee and the Executive Council requires a two-third majority, any other decision requires a simple majority.

8. The States Parties to this Convention shall establish a Technical Secretariat that shall provide administrative support to the Consultative Committee and the Executive Council and render technical assistance to States Parties and the Executive Council.

Article IX

Consultation, Co-operation and Fact-Finding

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 this Convention shall make every possible effort to clarify and resolve, through bilateral consultation, 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. Nothing in this Convention affects the right of any two or more States Parties to this Convention to arrange by mutual consent for inspections 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.

3. Each State Party to this Convention may submit to the Consultative Committee a request to carry out a challenge procedure to clarify and resolve any situation considered to be ambiguous or which gives rise to suspicion about actions in breach of obligations deriving from the provisions of this Convention.

4. The Consultative Committee shall investigate the facts, if necessary by means of an on-site inspection.
5. If the Consultative Committee decides to request an on-site inspection it shall immediately notify the State Party to this Convention to be inspected.
6. The State Party to this Convention to be inspected shall treat favourably and in good faith a request for an on-site inspection.
7. After the receipt of the request the State Party to this Convention to be inspected shall provide without delay unimpeded access to the location that is to be subject of an on-site inspection.
8. The State Party to this Convention to be inspected can refuse an on-site inspection only for most exceptional reasons, relating to an apparent abuse of the request or to a pertinent threat of its national security.
9. A refusal should be accompanied by a prompt and full explanation of the reasons.
10. The Consultative Committee shall assess the explanation submitted and may send another request, taking into account all relevant elements including possible new elements received by the Consultative Committee after the original request.
11. If a second request is rejected the Consultative Committee or any State Party to this Convention may have recourse to the appropriate procedures under the Charter of the United Nations.

Alternative II

The following material is taken from Articles IX, X, XI from CD/500:

Article IX

Consultation and Co-operation; Resolving Compliance Issues

1. 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. Parties shall make every possible effort to clarify and resolve, through bilateral consultation, any matter which may cause doubts 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 seven days of the request, with information sufficient to answer the doubts or concerns raised along with an explanation of how the information provided resolves the matter. Nothing in this Convention affects the right of any two or more Parties to arrange by mutual consent for inspections 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 Party under other provisions of this Convention.
3. In order to facilitate satisfactory resolution of matters raised, the Parties concerned may request the assistance of the Consultative Committee or its subsidiary organs. Any Party may request the Executive Council to conduct fact-finding procedures with regard to the Party's own activities or the activities of another Party in order to clarify and resolve any matter which may cause doubts about compliance with the Convention or gives rise to concerns about a related matter which may be considered ambiguous.
 - (a) Requests sent to the Executive Council under this Article shall state the doubts or concerns, the specific reasons for the doubts or concerns, and the action that the Council is being requested to undertake.
 - (b) Within two days of receipt of such a request, the Technical Secretariat shall, on behalf of the Council, request the Party whose activities create the doubts or concerns to clarify the state of affairs.
 - (c) If the doubts or concerns which gave rise to the request have not been resolved within 10 days of the receipt of the request by the Council, its Fact-Finding Panel shall immediately initiate a fact-finding inquiry, and transmit to the Chairman of the Council a report on its work, whether interim or final, within two months of the date of the request. Reports of the Panel shall include all views and information presented during its proceedings.
 - (d) All requests for special on-site inspections shall be governed by Article X and all requests for ad hoc on-site inspections by Article XI.

4. Any Party whose doubts or concerns about compliance have not been resolved within two months or any Party which has doubts or concerns it believes warrant urgent consideration by all Parties regarding compliance or regarding other matters directly related to the objectives of the Convention may request the Chairman of the Consultative Committee to convene a special meeting of the Committee. The Chairmen of the Committee shall convene such a meeting as soon as possible and in any case within one month of the receipt of the request. Each Party may participate in such a meeting, whose functions and rules of procedures are established in Annex I.

5. All Parties shall co-operate fully with the Consultative Committee and its subsidiary organs, as well as with international organizations, which may, as appropriate, give scientific, technical and administrative support in order to facilitate fact-finding activities and thereby help to ensure the speedy resolution of the matter which gave rise to the original request.

6. The Executive Council shall promptly notify all Parties of the initiation of any fact-finding procedures and shall provide all available information related thereto to any Party upon request. All Parties shall also be promptly notified of the refusal by a Party of any request made by the Committee or its subsidiary organs as part of a fact-finding inquiry. All reports regarding the fact-finding activities conducted under this Article, as well as on-site inspections under Articles X and XI shall be distributed promptly to all Parties.

7. The provisions of this Article shall not be interpreted as affecting the rights and duties of Parties under Articles X and XI or under the Charter of the United Nations.

Article X

Special On-Site Inspection

1. In accordance with the provisions of this Article and Annex II, each member of the Fact-Finding Panel shall have the right to request at any time a special on-site inspection of any other Party, through the Technical Secretariat, 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, of:

(a) any location or facility subject to systematic international on-site inspection pursuant to Articles III, V and VI; or

(b) any military location or facility, any other location or facility owned by the Government of a Party, and as set forth in Annex II, locations or facilities controlled by the Government of a Party.

2. A request shall be handled in the following manner:

(a) Within 24 hours of the request, the Technical Secretariat shall notify the Party to be inspected and designate an inspection team in accordance with paragraph 4 of this Article; and

(b) Within 24 hours after the receipt of such notification, the Party to be inspected shall provide the inspection team unimpeded access to the location or facility.

3. Each Party may solicit from any member of the Fact-Finding Panel a request for an inspection of any other Party under this Article.

4. Any special on-site inspection requested through the Technical Secretariat shall be carried out by inspectors designated from among the full-time inspectors of the Secretariat. Each inspection team shall consist of one inspector from each member State of the Fact-Finding Panel, except that if the Party to be inspected is a member State of the Panel, the team shall not include any inspector from that State. The team shall promptly provide a written report to the requesting Party, the inspected Party, and the Fact-Finding Panel. Each inspector shall have the right to have his individual views included in the report.

Article XI

Ad Hoc On-Site Inspection

1. In accordance with the provisions of this Article and Annex II, each Party shall have the right to request, at any time, the Consultative Committee to conduct an ad hoc on-site inspection, 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, of any location or facility not subject to Article X.

2. A request shall be handled in the following manner:

(a) The Fact-Finding Panel shall meet within 24 hours to determine whether to request such an ad hoc on-site inspection using the guidelines in Section H of Annex II.

(b) If the Fact-Finding Panel decides to request an ad hoc inspection, the Party to be inspected shall, except for the most exceptional reasons, provide access within 24 hours of the Panel's request.

(c) If the Party to be inspected refuses such a request it shall provide a full explanation of the reasons for the refusal and a detailed, concrete proposal for an alternative means of resolving the concerns which gave rise to the request. The Fact-Finding Panel shall assess the explanation and alternative submitted, and may send another request, taking into account all relevant elements, including possible new elements received by the Panel after the original request.

(d) If the request is again rejected, the Chairman shall immediately inform the Security Council of the United Nations.

1. The Commission on Disarmament

Report of the Commission on Disarmament
of the United Nations

The Commission on Disarmament was established in 1978 by the General Assembly of the United Nations. Its mandate is to study disarmament and to recommend measures to the General Assembly. The Commission has held several sessions and has produced a number of reports. The following is a summary of the Commission's work in 1975.

The Commission's work in 1975 was organized into four main areas:

1. General Disarmament: The Commission continued its work on the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and the Treaty on the Prohibition of Nuclear Weapons (TPNW). It also held discussions on the possibility of a new international instrument on the prohibition of the development, production, and stockpiling of nuclear weapons.
2. Chemical Weapons: The Commission continued its work on the Convention on the Prohibition of Chemical Weapons (CWC). It held discussions on the possibility of a new international instrument on the prohibition of the development, production, and stockpiling of chemical weapons.
3. Biological Weapons: The Commission continued its work on the Convention on the Prohibition of Biological Weapons (CBW). It held discussions on the possibility of a new international instrument on the prohibition of the development, production, and stockpiling of biological weapons.
4. Conventional Weapons: The Commission continued its work on the Convention on Certain Conventional Weapons (CCW). It held discussions on the possibility of a new international instrument on the prohibition of the development, production, and stockpiling of conventional weapons.

The Commission also held discussions on the possibility of a new international instrument on the prohibition of the development, production, and stockpiling of nuclear, chemical, and biological weapons.

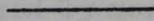
Ad Hoc Committee on Chemical Weapons

Report of the Chairman of the Open-ended Consultations
of the Ad Hoc Committee on Chemical Weapons

1. In accordance with the terms of reference outlined by the Chairman of the Ad Hoc Committee on Chemical Weapons in document CD/CW/WP.98 dated 27 February 1985, the Open-ended Consultations had before it the question of the prohibition of the use of chemical weapons and the question of herbicides.
2. Three Open-ended Consultations were held from 18 March to 15 April 1985.
3. It was agreed that within the terms of reference, the Open-ended Consultations would deal with the following four elements:
 - (a) the prohibition of the use of chemical weapons;
 - (b) the link of the prohibition of the use of chemical weapons to the 1925 Geneva Protocol;
 - (c) the prohibition of the use of herbicides as a method of warfare;
 - (d) the verification of the prohibition of the use of chemical weapons and the prohibition of the use of herbicides as a method of warfare.
4. It was also agreed that the first two elements would be taken up first, without prejudice to the importance of any of the other elements or to the inter-relationship of the four elements.
5. The basis for discussions was the informal proposal of the previous Chairman of the Open-ended Consultations submitted on 31 January 1985 and the informal proposal of the Delegation of Sweden dated 31 January 1985. Account was also taken of previous proposals made on the issues.
6. In addition to the three Open-ended Consultations, the Chairman has undertaken bilateral as well as multilateral private consultations with the most directly interested delegations aimed at facilitating efforts towards a compromise solution of the elements under discussion.

7. As a result of the consultations which were conducted in a spirit of compromise, a convergence of views has emerged on a set of provisions dealing with the prohibition of the use of chemical weapons and the link of such a prohibition to the 1925 Geneva Protocol as contained in the Annex, which in the view of the Chairman constitutes a basis for consensus.

8. The two remaining elements, i.e. the question of the prohibition of the use of herbicides as a method of warfare and the question of the verification of the prohibition of the use of chemical weapons and the prohibition of the use of herbicides, will be taken up in the summer session.



ANNEX

Preambular paragraphs:

Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to 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,

Recognizing that the Convention reaffirms the 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,

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 17 June 1925.

Operative Paragraphs:

Each State Party undertakes not to use chemical weapons.*

Nothing in this Convention shall 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.

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.

*/ 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.

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Ad Hoc Committee on Chemical WeaponsReport of the Chairman of Working Group B

The aim of this paper is to summarize the work of Working Group B during the spring part of the 1985 session. The summary reflects the Chairman's understanding of the state of affairs. It does not engage any delegation, nor does it prejudice their positions. Furthermore, the paper contains some suggestions by the Chairman. The intention with these suggestions is simply to facilitate for delegations to prepare themselves for the work during the summer part of the session.

Apart from an organizational meeting, Working Group B held four meetings three of which were devoted to issues related to the elimination of chemical weapons stocks and one to the elimination of chemical weapons production facilities.

Document CD/539, Annex I, Chapters III, IV and V and in particular the problems contained in the brackets and foot-notes has made up the essence of the work of the Group.

I. ELIMINATION OF CHEMICAL WEAPONS STOCKS1. Declarations of chemical weapons(a) Summary

Consultations were undertaken on some of the bracketed material in CD/539, Annex I, Chapter III, "Declarations of chemical weapons". The results of these consultations were presented to the Working Group and it appears that while the solution to some of the problems contained therein have to await the development of the work on other parts of the convention, the elimination of some other brackets could now be considered.

(b) Suggestions

Based on the outcome of the above-mentioned consultations the Chairman suggests some changes in the text of Annex I, Chapter III, under the heading "Declarations of chemical weapons". These changes are marked in the annex to this report.

Furthermore, it is suggested that delegations reflect on how to solve one of the major outstanding issues as regards the declarations of chemical weapons, namely that of the declaration of location of stocks. In this context it might

be useful if delegations would analyse if regrouping of stocks could possibly facilitate for States to declare their locations.

2. The possibility of eliminating parts of chemical weapons stocks through diversion for permitted purposes

(a) Summary

In Chapters III and IV of Annex I of CD/539, the question of possible elimination of parts of chemical weapons stocks through diversion for permitted purposes is reflected in a large number of brackets. The Working Group discussed this issue rather extensively.

It appears that delegations with such diversion understand two things, namely

- to retain supertoxic lethal chemicals for use for protective and possibly other permitted purposes, and
- to irreversibly transform dual-purpose chemicals into products which for all practical purposes cannot be used for chemical weapons.

As regards the possibility of retaining supertoxic lethal chemicals for protective or possibly other permitted purposes it appears from the deliberations

- that the supertoxic lethal chemicals to be thus diverted should be included in the declarations of chemical weapons stocks,
- that quantities involved should be included in the aggregate quantities to be agreed upon for the production/acquisition of supertoxic lethal chemicals for protective and possibly other permitted purposes, and
- that the same level of verification should apply irrespectively of if the supertoxic lethal chemicals are retained or produced for protective or other permitted purposes.

As regards the possible diversion in the context of irreversibly transforming dual-purpose chemicals into products which for all practical purposes cannot be used for chemical weapons, it appears

- that the end product would be used for permitted purposes other than protective purposes,
- that for some delegations the verification of such chemical transformations would have to provide the same level of assurances as would be the case if they were destroyed, while others felt that a verification level equivalent to that for the production for peaceful purposes of the same chemicals would be satisfactory.

Furthermore, it was discussed whether the transformation process could take place in civilian industrial plants or if destruction plants and/or especially designated plants for the transformation process should be used in order to facilitate the verification procedures. A convergence of views seemed to emerge that the draining of filled munitions should take place in destruction plants, while the discussion was inconclusive as regards chemicals in bulk.

The working group touched briefly on the possible diversion of "other harmful chemicals" and precursors, munitions or other devices. It is the Chairman's impression that the problems connected with diversion mainly concern dual-purpose "other lethal chemicals" and precursors, while diversion of "other harmful chemicals" was not generally looked upon as a useful possibility. Furthermore, the possible recovery for peaceful purposes of the metal content of munitions and other devices did not appear to pose a major difficulty.

(b) Suggestions

The Chairman suggests that delegations, without prejudging their final positions, make a thorough analysis of the question, based on the hypothesis that elimination of chemical weapons stocks could take place through a combination of destruction and diversion. Such an analysis seems necessary in order for the Working Group to move closer to a common understanding, and would need to take into account the implications, inter alia, in the areas of definitions, declarations and verification.

3. Principles and methods of verification with regard to the destruction of stocks

(a) Summary

The deliberations have shown that there are a number of different destruction processes and techniques, the choice of which would depend on a number of factors. It appears to be agreed that each State Party may decide for itself which destruction processes and techniques it finds best suited to the destruction of its chemical weapons. Consequently, it was felt that a certain flexibility was needed as regards the detailed interrelationship between the destruction process chosen and the verification methods needed. At the same time it emerged from the discussion that certain common basic principles would be applicable, namely

- that the aim of the verification procedures should be
 - to confirm the identity and quantity of the materials
 - to be destroyed, and
 - to confirm that the materials have actually and completely been destroyed,

- that a combination of human inspection and monitoring with instruments would be necessary for effective verification, but that the exact combination of instruments and inspectors would have to be tailored after the specific destruction processes to be monitored,
- that inspection would be continuous during periods in which destruction operations are under way for destruction of supertoxic lethal chemicals, draining of filled munitions as well as during destruction of filled and drained munition. As regards other chemicals there were different views on whether inspection should be continuous or on a quota basis or limited to certain key stages,
- That international inspectors would have to be qualified and impartial personnel, and that they should be able to make independent judgements,
- that the inspectors should have an up-to-date knowledge of the design and operation of the destruction facility and that they would need to make a detailed engineering review of the facility, including on-site inspection, before the destruction operations begin,
- that in order to minimize intrusion and ensure confidence, the data used for verification should be as closely linked as possible to the actual destruction step and the verification procedures designed so that they do not unnecessarily interfere with the operations of the facility,
- that, to the extent consistent with the needs, the verification procedures should make use of information from routine facility operations, and that the same verification procedures should, to the extent possible, be used for different processes within one and the same facility,
- that close co-operation between international verification personnel and host state operating personnel was important for effective international verification and



- that, while the decisions as regards destruction methods etc. lies with the sovereign State Party, the Technical Secretariat could have some role to play. It could, inter alia, assist States Parties with experts for the designing of destruction facilities, and give suggestions on how to facilitate the verification tasks. It seemed, however, to be agreed that such assistance should be given by the Technical Secretariat, only upon request from a State Party.

(b) Suggestions

It appears that the draft articles in the main body of the Convention should not cover each and every detailed need as regards the destruction of chemical weapons and its verification. Furthermore, the contents of chemical weapons stocks will not be known until after the declarations have been made.

The Chairman therefore suggests that delegations consider an approach to the problems involved which contains the following elements:

1. Undertakings by States Parties in the form of articles in the main body of the Convention
 - that destruction of chemical weapons and verification of the destruction process shall be carried out in accordance with the principles laid down in an Annex (see point 2), and
 - that detailed arrangements to this effect shall be worked out in collaboration with the Consultative Committee (or its subsidiary organs, as appropriate).
2. Such general and agreed principles for the carrying out of destruction of chemical weapons and its verification laid down in an Annex constituting an integral part of the Convention.

The general principles summarized above under point 3 (a) could form the starting point for the working out of more detailed and comprehensive principles to be laid down in such an Annex.

II. ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

(a) Summary

The deliberations on the question of elimination of chemical weapons production facilities was hampered by the fact that a clear identification or definition of what constitutes a chemical weapons production facility has not yet been elaborated, a task which overlaps with the responsibilities of Working Group A. This notwithstanding a useful exchange of view took place on which criteria would be applicable in defining such facilities. Furthermore,

it seemed to be agreed that declarations of chemical weapons production facilities, similar to those for chemical weapons stocks would need to be elaborated. Some exchange of views also took place concerning the very concept of elimination. The deliberations were not conclusive, with the possible exception of the question of conversion of chemical weapons production facilities into destruction facilities.

Conversion of chemical weapons production facilities into destruction facilities

Both in the context of elimination of stocks and elimination of chemical weapons production facilities, delegations brought up the question of possible conversion of chemical weapons production facilities into destruction facilities. During the deliberations no delegation expressed itself against such conversions taking place, and subsequent consultations indicate that there is a convergence of views as regards the very principle of permitting such conversions to take place.

There are however different views if such converted facilities should be eliminated after the destruction processes have been completed, or if they may be kept for civilian industrial destruction purposes.

(b) Suggestions

CD/539, Annex I contains no provision on the possibility to convert chemical weapons production facilities into destruction facilities. It is suggested that delegations without prejudging their positions as regards the possible later destruction of such destruction facilities, consider introducing such a provision in the text.

Annex to the Report of the Chairman of Working Group BIII. DECLARATIONSDeclarations of chemical weapons

Each State Party undertakes to submit not later than 30 days after entry into force for it of the Convention declarations to the Consultative Committee, stating:

- whether it possesses or does not possess any chemical weapons^{*/};
- whether it has on its territory any chemical weapons under the [jurisdiction or] control of anyone else;
- the composition of stocks of chemical weapons, i.e.:^{**/}
 - toxic chemicals and their [key] precursors comprised in such stocks by their chemical names, [structural chemical formulae,] toxicities where applicable and weights in metric tons in bulk and filled munitions;
 - munitions by types, calibres, quantities and chemical fill;
 - ~~other delivery~~ devices by types, quantities ~~[and calibres]~~ ~~[size]~~ and chemical fill;
 - equipment [or chemical] specifically designed for use directly in connection with the employment of such munitions or ~~other delivery~~ devices;
- [- the precise location of chemical weapons under its control and the detailed inventory of the chemical weapons at each location]

[Each State Party undertakes to submit to the Consultative Committee declarations stating the location of storage depots adjacent to destruction facilities [within 3 months after entry into force of the Convention].]^{***/}

^{*/} Regardless of quantity or location.

^{**/} It has been proposed that some of this material could be placed in an Annex.

^{***/} [Within 6 months with respect to binary weapons and within 24 months for

Ad Hoc Committee on Chemical Weapons

Report of the Chairman of Working Group A

Working Group A held 8 meetings, as envisaged in the Programme of Work suggested by the Chairman and the terms of reference of Working Group A. Four of these meetings - in other words the bulk of the work - were dedicated to the issue of régimes of permitted activities for different categories of chemicals. The other three meetings focussed on the following topics: transfer of toxic chemicals and their precursors for permitted purposes; principles and methods of declaration and monitoring of the activities of a small-scale production facility; and principles and methods of declaration and monitoring of the activities of industrial production facilities.

In addition, I held a series of open-ended and private consultations all of which proved very productive, and I avail myself of this opportunity to thank all participants for their efforts and ideas.

As to the method of work, I have persistently followed the Chairman's suggestions contained in CD/CW/WP.98, that is in order to reach the final stage of drafting, the work of the Group was structured along the following lines: first, exploration of the problems through identification of various positions and viewpoints and their elaboration; second, reaching common understandings where possible; and third, drafting.

The four working papers (WP.99, 103, 104, 105) were intended to serve exactly the method described above.

This is also the methodological basis for my assessment of the work during the last two months and my suggestions for working ideas for the summer session. Many of the problems in the area of permitted activities are still at the stage of exploration and identification of various positions and their elaboration. Consequently the in-depth and generally constructive exploration that took place in the Group showed with a very high degree of precision where the actual problems lie and what is further necessary for moving to the stage of common understanding.

It must be said that out of the whole array of problems, one problem stands out - that of the approach to the identification of the super-toxic lethal chemicals, the key precursors and precursors.

If this problem would be satisfactorily solved, many other unresolved issues of importance would automatically be moved to the area of possible agreement - for example, the composition and the number of chemicals to be included in the list making up the aggregate quantity of one metric tonne of permitted production of super-toxic lethal chemicals, the problem of key components of binary systems, the régime of permitted production and transfer, the exact functions of the single small-scale production facility, etc. The solution of these and other related issues would, in its turn, create favourable conditions for delegations to see more clearly and eventually solve the problem of declarations and monitoring of the activities of the single small-scale production facility and the industrial production facilities.

Therefore, to me the most important task before the Working Group during the summer session will be to solve the issue of criteria and approach for identifying and listing the various categories of chemicals.

Super-toxic lethal chemicals: There are at present three approaches to the identification of the chemicals of this category. One approach is based on the criteria of toxicity and the general purpose criterion; another approach is based on the concept of risk which the various super-toxic lethal chemicals pose to the stability of the convention; and the third approach is based on a structural formula supplemented by a list of super-toxic lethal chemicals to be prohibited and a list of super-toxic lethal chemicals, whose production would be legalized.

(The issues of the timing of making up the list of super-toxic lethal chemicals, the quantitative restrictions and the permitted site of production of this category of chemicals remain unresolved.)

Key precursors: It is mutually agreed that the list of key precursors should be made up before the entry into force of the Convention. The different approaches to the problem of criteria and lists in regard to the key precursors are well-known. In the search for common understanding on this issue two positive developments occurred: the validity of the toxicity criteria was unequivocally confirmed and it was agreed that in listing the key precursors it should be

necessary to provide for certain chemicals which in their nature are exceptions but to which the same régime should be applied.

In regard to the key components of binary systems (KCBS) a group of delegations suggests that their quantity be included in the limit of one metric tonne, and another group of delegations considers that the key precursors for the production of super-toxic lethal chemicals for protective purposes should also be limited to the one metric tonne. I would submit that perhaps both groups refer to exactly the same substances, therefore this could be another area of agreement.

I could also note a general readiness not to restrict the quantity of the production of key precursors and precursors.

OTHER LETHAL CHEMICALS (OLC). There seems to be general agreement that those chemicals in this category which are single-purpose should be banned for production in the civil industry; that a list of dual-purpose OLCs should be drawn up before the entry into force of the Convention, and that no restrictions should be imposed on the quantity and place of production of dual-purpose OLCs. The mode of listing the OLCs has not been discussed.

HARMFUL CHEMICALS (HC). The issue remained practically out of the discussion, though it is obvious that many of its aspects pose questions which necessitate solution.

TRANSFER OF TOXIC CHEMICALS. On the one hand this is an area in which the Group managed to reach at least two clear-cut agreements: first, to prohibit all transfer of chemical weapons, including for the purposes of elimination; and second, the transfer of other lethal chemicals produced in the civil chemical industry should be permitted, including to States non-parties to the Convention.

On the other hand, it was established during the consultations that there are many complex issues which merit further and careful examination, in order to establish a régime which would cut off the possibility of intentional or accidental development of new chemical weapons, and of the proliferation of known chemical weapons. It was revealed that in the current thinking on the issue of transfer many loopholes can be detected in respect to the transfer of relevant chemicals on both laboratory and production quantities. This is another area which should be further elaborated during the summer session.

SINGLE SMALL-SCALE PRODUCTION FACILITY (SSSPF). The issue was only partially discussed. Many new aspects of a technical nature (security and verification) of such a facility were revealed. Aspects of its versatility were discussed. Some delegations maintained their known positions as to the applicability of the SSSPF for protective purposes only.

INDUSTRIAL PRODUCTION FACILITIES. To the extent possible - having in mind the existing differences on the quantity and place of production of super-toxic lethal chemicals and other categories of chemicals, and the functions of a single small-scale production facility - a useful and constructive discussion of this problem was held. Certain areas of common understanding were found to exist, i.e., in regard to the general perception of a régime on the harmful chemicals, the applicability of a differentiated approach to monitoring the production facilities, possibly the time-limits for declaration of production facilities, the responsibility of a State to declare production facilities on its territory, under its jurisdiction, etc..

On the whole the issue of industrial production facilities, including the form of systematic on-site inspection, requires further exploration, for which I shall make the necessary arrangements.

I have already indicated the two or three broad areas which require further work during the summer session. The outcome of that work will also depend on the fresh elaboration of a number of positions, above all on the methodological basis for identification of super-toxic lethal chemicals and their key precursors and also a considerable and concrete work on the whole issue of industrial production facilities. Should this process of elaboration actually occur, I could realistically say that the Group would need a period of a few weeks before drafts of provisions on "Permitted Activities" could be submitted by the Chairman. I shall not hesitate, however, to suggest provisional texts on issues of agreement even before that. My intention is - through consultations - to provide answers to as many as possible of the questions that arose during the spring session.

As to the organization of work in the summer, I have taken note of the ideas proposed to me by a number of delegations, for holding more consultations than meetings of the Group. At the same time, I should not like to leave any delegation out of the negotiating process. Therefore, I would request from the Group to let me suggest initiatives in organizing the work. My basic principle will be that no meeting of the Group as a whole should be held unless it is

carefully and totally prepared - to take an important decision or finalize a certain stage in the joint efforts on a specific issue.

It would be very helpful if the Chairman could indicate before we close the spring session, how many working weeks would the Working Groups have before their respective Chairmen should submit their final reports.

In conclusion, may I be allowed to thank most heartily the Chairman for his assistance and encouragement, the Secretariat and the interpretation service for their indispensable work, and last but not least, to all my colleagues from the various delegations who have, with dedication and insight, helped me to explore a vast and complex area of the future convention and with their ideas and suggestions have contributed to the slow but steady moving towards common understandings on the issues involved.

CONFERENCE ON DISARMAMENT

CD/CW/WP.110

22 April 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Report of the Chairman of Working Group C

Working Group C held six meetings from 6 March to 19 April, 1985. In the course of its work and in accordance with its mandate, it considered the issues of compliance of a future chemical weapons convention.

Working Group C considered mainly the following questions:

- Institutional aspects of compliance
- Consultation and co-operation
- Principles and methods of fact-finding including on-challenge verification
- Interactions between national and international organs of verification of compliance.

The Chairman had prepared a catalogue of questions as contained in Working Paper 101 of 13 March 1985 in order to facilitate a structured discussion of the questions relating to the issue of compliance.

In the discussion special attention was focused on the criteria and the principles to be applied as to the composition of the Executive Council, in particular on the criteria of political and/or geographical balance. A further point of discussion related to the rules to be applied to the decision-making process of any organ of the Convention. Some delegations expressed the view that in matters of substance a consensus was needed. Others expressed the view that in matters of substance a qualified majority i.e. a two-third majority was required and that in all other matters a simple majority would be sufficient.

In the context of the problems of consultation and co-operation the discussion focused on the relationship between bilateral and multilateral consultations. There was a general agreement to recognize an obligation to solve controversial questions at the lowest possible level of controversy and to provide for the possibility to solve an issue also by bilateral means, if such a possibility would actually exist. However, it was generally recognized that the relationship between the bilateral and multilateral process should be of such a nature that both processes do not exclude each other and are not a pre-condition to each other.

An important result of the discussion on consultation and co-operation was that many delegations underlined the importance that problems of compliance should be solved in a non-controversial, non-adversary manner.

Working Group C had a lively discussion on principles that had been elaborated and introduced by one delegation, dealing with the question what influence a system of a political crisis management could exercise on the issue of compliance. The gist of the discussion was to come to conclusions of how to avoid a political crisis once a suspicion was expressed that a State party might have violated the Convention. As to the principle and methods of fact-finding diverging views were expressed whether the application of relevant procedures - including on-site inspections - should be based on a voluntary principle, on a mandatory principle or on the principle of a stringent obligation to permit such inspection, taking into account however a right of refusal for most exceptional reasons.

The discussion on the interaction between national and international organs of verification of compliance was characterized by two diverging approaches: some delegations expressed the view that the national organs should carry the main burden of verification; other delegations stated that they considered domestic implementation measures and international means of verification as complementary procedures; in their view, however, domestic implementation measures could not replace international means of verification.

On 12 April 1985 the Chairman introduced Working Paper 106 containing his suggestions for possible compromise formulations on the following articles:

- Article VII - National Implementation Measures
- Article VIII - Consultative Committee
- Article IX - Consultation, Co-operation and fact-finding.

This work was based on previous materials as contained in documents CD/416 and CD/539 as well as on proposals presented by delegations and by the Chairman.

It is the intention of the Chairman to concentrate the further efforts of Working Group C on the collective elaboration of the relevant articles dealing with the issue of compliance in the summer session of the Conference on Disarmament.

CD/CW/WP.111 Indicative Programme of 14.6.85
Work for the Second Part
of the 1985 Session

NOT REPRODUCED

Ad Hoc Committee on Chemical Weapons

PAKISTAN

CHEMICAL WEAPONS CONVENTION: THE QUESTION OF DECISION-TAKING

1. The discussions surrounding the machinery required to implement the future Chemical Weapons Convention and to ensure compliance with it have, in the opinion of the Pakistan delegation, revealed the existence of a consensus that this machinery should have as its principal body a Consultative Committee and as its main subsidiary body an Executive Council. There has been extensive consideration of the functions that these bodies should perform and here also one can witness an extensive area of agreement.
2. This paper focuses on the question of decision-taking in the above-mentioned bodies. Before proceeding further with the subject-matter of this paper it would be worth while to recall that during the course of work in the Conference on Disarmament a number of views/ideas have been presented on the subject which are inter alia contained in (a) paragraphs 5 and 14 of chapter VIII in Annex I of CD/539 (report of the CW Ad Hoc Committee for the year 1984), (b) paragraph 5 of Annex I to CD/500 submitted by the United States delegation, (c) paragraphs 16 and 22 of CD/589 submitted by the United Kingdom delegation and (d) sub-article 7 under article VIII proposed by the Chairman of Working Group C in document CD/CW/WP.106.
3. The purpose of this paper is not to criticize any of the approaches suggested so far but rather to look for a formula which is simple, efficient, unambiguous and balanced.
4. According to one approach the method of decision-taking should be determined by the nature of the subject under consideration. Under this approach the subjects should be divided as "procedural" and "substantive" and while procedural matters could be decided through a simple majority, decisions on substantive questions would be based on consensus. This approach does not fully meet the criteria (simplicity, efficiency and unambiguity) mentioned in the preceding paragraph. In the present world with its antagonistic political divisions and

subdivision, achievement of consensus on a substantive matter, especially if it is contentious, would be more of an exception than a rule. Furthermore if a substantive question directly involves two opposing parties either one of them would be in a position to block consensus. This problem could perhaps be circumvented by disallowing a State directly involved in a contentious issue from taking part in the voting. However such a recipe may create more problems than it solves.

5. Another problem would lie in determining whether a subject is substantive or procedural. In this regard the convention could (a) lay down the procedural subjects on the clear understanding that all subjects not mentioned would be treated as substantive, (b) lay down the substantive subjects, in which case those left out are treated as procedural, (c) formulate two lists separately giving substantive and procedural subjects, or (d) leave the entire question to the judgement of parties concerned to be determined on the basis of general practice. In any case unless the matter is comprehensively dealt with there would always remain a possibility of starting a debate as to whether a question is substantive or procedural. In this context another question which would have to be answered is whether the discussion to determine the nature of a subject is in itself a substantive or a procedural matter. Above are some of the questions that would have to be settled in case the accepted approach is the one outlined in the beginning of paragraph 4.

6. Another approach would have a three tier arrangement, (a) consensus, (b) qualified majority and (c) simple majority. In this approach the principle of consensus exists as a symbol as it does not impose any inability on reaching decisions through the qualified majority approach. This approach also essentially divides the decisions between substantive and procedural, requiring 2/3rd majority for decisions on substantive matters and a simple majority for procedural issues. Under this approach modification to the convention (amendments) can also be made by a 2/3rd majority. A question that would have to be tackled under this approach would be to fix the length of time which would have to elapse in order to conclude that consensus was not attainable and that resort should be had to qualified majority.

7. The Pakistan delegation while fully supportive of decisions by a qualified majority is of the view that amendments to the convention should be subject to a separate article in the convention which ensures that an amendment agreed to by any number of States parties cannot be imposed on a party which does not agree with it. It is best not to confuse the amendment procedure with the general decision-taking in the Consultative Committee or elsewhere. In the opinion of the Pakistan delegation any amendment to the convention should become effective for a State party only after the latter has expressly accepted it.

8. Yet another view appears to be that in case a consensus cannot be reached on a substantive matter no decision should be taken. Under this approach all that can be done is to reflect diverging opinions in the relevant records for subsequent study by others. It seems that under this approach a violator of the convention (especially if it is a State party) would be let off the hook too easily.

9. Thus (leaving out the question of amendments), in the opinion of the Pakistan delegation, the simplest and the most efficacious solution lies in basing all decisions on a qualified (2/3rd majority) without any distinction as to the nature of the subject-matter. Such an approach would not prevent decisions by consensus (for obvious reasons) if that were possible on an issue. It would save time (which could be very valuable in some cases) that would otherwise be lost in determining that consensus was not possible hence qualified majority should be resorted to. It would also obviate the possibility of wasting time in discussing as to whether a matter was substantive or procedural. Applying the method of qualified majority on procedural matters would not create any problems as, in the view of the Pakistan delegation, a 2/3rd majority should be readily available on procedural issues since these are essentially of a non-controversial nature. In fact the willingness of delegations to accept decisions by simple majority on procedural matters displays the comfort with which they view the procedural aspect. This approach also has the merit of being simple and unambiguous. Additionally it ensures that decisions will be taken not by a majority of a few but a very substantial majority (in a decision based on 2/3rd majority the number of those in support is at least twice that of those opposing it). For the sake of argument at least, this approach could help in imposing better discipline on possible violators who could otherwise take shelter behind the principle of consensus. Furthermore, on a question where two parties are opposing each other, their participation in the voting would not help either of them as their votes would only cancel each other. Against this in a system based on consensus either of them would be in a position to block a decision.

10. In view of the foregoing the Pakistan delegation proposes that the sub-article relating to decision-taking in the Consultative Committee should simply read as follows:

"The Consultative Committee shall take all its decisions by at least a 2/3rd majority of States parties to the convention".

In the case of the Executive Council the relevant sub-article should read as follows:

"The Executive Council shall take all its decisions by at least a 2/3rd majority of its total membership".



Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

VERIFICATION OF NON-PRODUCTION OF CHEMICAL WEAPONS

The Number of Plants Producing Key Precursors and Precursors
of Certain Toxic Substances for Civil Uses
According to the List in CD/353

Referring to a request contained in Working Paper CD/353 preliminary data on the number of companies in the Federal Republic of Germany producing key precursors and precursors of certain toxic substances for civil uses, are submitted as follows:

<u>Key precursors and precursors for toxic chemicals as contained in CD/353</u>	<u>Number of companies in the Federal Republic of Germany producing these precursors</u>
Phosphorus trichloride (PCl ₃)	3
Phosphorus oxychloride (POCl ₃)	2
Chemicals containing the P-methyl and/or P-ethyl bond	2
Methyl and/or ethyl esters of phosphorous acid	1
3,3-dimethylbutanol-2 (pinacolyl alcohol)	1
N,N-disubstituted-β-amino ethanols	2
N,N-disubstituted-β-amino ethanethiols	0
N,N-disubstituted-β-amino ethyl halides	0
Phenyl, alkyl, or cycloalkyl-substituted glycolic acids	2
3- or 4-hydroxypiperidine and their derivates	0

at the Conference on Disarmament

FEDERAL REPUBLIC OF GERMANY

DECLARATION OF THE FEDERAL REPUBLIC OF GERMANY

The Federal Republic of Germany has always been a firm supporter of the goal of general and complete disarmament. It has consistently supported the efforts of the Conference on Disarmament to achieve this goal.

It is the conviction of the Federal Republic of Germany that the only way to ensure the security of all nations is through the elimination of nuclear weapons. The Federal Republic of Germany is committed to the goal of a world free of nuclear weapons.

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Production: 1967

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China

CD/CW/WP.114 Destruction of Chemical
Weapons

Also issued as
CD/605
4 July 1985

NOT REPRODUCED
(see WP volume)

also issued as
1955
July 1955

Journal of Chemical
Physics

Volume 23
Number 5

China

1955

Yugoslavia CD/CW/WP.115 Permitted Activities:
Verification Measures

Also issued
CD/613
10 July 1985

1954
1955
1956

1957
1958
1959

1960

Ad Hoc Committee on Chemical Weapons

Working Group C

Article VIINational 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.^{*/}

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 and a response to all its requests for the provision of expertise, information and laboratory support.

National Technical Means ^{**/}

^{*/} It was suggested that guidelines for the functioning of the national authority for the implementation of the Convention be elaborated.

^{**/} It was suggested that no reference to National Technical Means is needed in a future Convention.

CONFERENCE ON DISARMAMENT

CD/CW/WP.117
16 July 1985
ENGLISH
Original: CHINESE

Ad Hoc Committee on Chemical Weapons

Explanations on Document CD/605 (CD/CW/WP.114) by the Chinese delegation

I. Background

The Chinese delegation began to participate in the CD negotiations on a Chemical Weapons ban in 1980. Since then, after a period of familiarizing ourselves with the issues involved, we have come to realize that there is a major technical problem still awaiting solution. It is of great importance to the future Convention and by no means less significant than the toxicity criteria for "super-toxic lethal, other lethal and harmful chemicals" which have already been agreed upon. The problem is: how many tons of chemical weapons stockpile should each State Party destroy in one phase so as to fulfill its obligations under the Convention and at the same time ensure that the balance of forces is not affected by the order of destruction? It seems very simple. For instance, each State could carry out destruction according to the weight of its stockpile and at an agreed percentage. The difficulty arises when the first step has been taken, for the stockpiles of States differ both in quantity and in quality and even more in composition. Under the circumstances, the above approach is feasible only if all the States concerned are willing to destroy a part of each kind of their stockpiled agents in each phase. However, in reality, for considerations of the locality of stockpiles, methods of destruction and convenience of operations, they would rather concentrate on the destruction of one or two kinds chemical weapons agents in their stockpiles in each phase. So it would be impossible to determine how much of its stockpile each State should destroy in a given phase. The issue of destruction quantity or, in other words, the timetable for destruction is not as simple as it may seem. If this problem is not solved technically, the political agreement on the destruction of chemical weapons will be threatened. Hence, in 1983, we began our work on using a single concept to reflect

both the weights of CW agents and their varying toxicities. This is the concept of Stockpiled Equivalent of Chemical Warfare Agents, a brief account of which was given to eminent experts from other delegations at that time. We are grateful for their favourable responses.

II. The Document

1. In this new concept proposed by the Chinese delegation, the key word is "equivalent". Just as the varying explosive power of different nuclear weapons is measured in terms of tons of TNT, we now use the concept of the "equivalent of chemical warfare agents" to measure the toxicity potential of different CW agents, and for the purpose of destruction it is called the "stockpiled equivalent of chemical warfare agents".

2. We recognize that factors affecting the capability of chemical weapons are not limited to the quantity and toxicity of CW agents. Other facts also come into play as identified in the document entitled "Chemical and Biological Weapons and Their Effect of Possible Use", which was submitted by a UN Group of Experts to the Secretary-General in 1969. Thus, the concept and formulae contained in our working paper are based on general estimates, but, we think, they would be adequate for the destruction of chemical weapons.

3. In the working paper, the term "chemical warfare agents" is used only for the convenience of discussion. Any eventual wording naturally depends on consensus opinion on the definition of chemical weapons. It is hoped that this will not block general acceptance of the new concept.

4. The section entitled "Illustrations of Application" is quite unnecessary for experts in this field. It is included, however, to enable politicians and diplomats to acquire a graphic perception of the feasibility of this concept.

5. Document CD/605 (CD/CW/WP.114) consists of the working paper per se and its annex. However, the annex is not the "Annex" referred to at the end of the working paper. The latter is meant to be part of the future Convention and should be more concise and compact. If the concept is acceptable to all, the Chinese delegation is willing to submit a draft Annex for consideration.

Ad Hoc Committee on Chemical Weapons

Working Paper by Pakistan

Prohibition on the Use of Herbicides

1. The Pakistan delegation holds the view that the future chemical weapons convention should contain a clause prohibiting the use of herbicides as a method of warfare. In this regard, the Pakistan delegation realizes that while the Convention would prohibit the production, stockpiling, transfer, use, etc. of chemical weapons, in case of herbicides the ban would only apply to their use as a method of warfare.
2. As regards the definition of herbicides, it should encompass any chemical substance which interferes with life processes of plants in a harmful manner due to its toxic effects.
3. The prohibition clause should be unequivocal, clear and universal.
4. The Pakistan delegation further holds the opinion that the issue of prohibiting the use of herbicides is not as complex an issue as some delegations apparently consider it to be. The basic decision involved is a political one, i.e. whether States are willing to give up the option of using herbicides as a method of warfare.
5. A separately elaborated verification régime in regard to the question of herbicides will not be required as the only possible violation of the prohibition would take place in case of a State party using herbicides as a method of warfare. In such an event, the same provisions as those for verifying the use of chemical weapons could be followed.
6. The Pakistan delegation believes that attempts to handle the question of herbicides in a document separate from the CW Convention would complicate matters and thus delay a positive outcome. It would also unleash another debate as to the question of the status of the separate document. The Pakistan delegation therefore strongly urges all the delegations to make every effort to arrive at a consensus formulation on the prohibition of the use of herbicides within the context of a CW Convention.

7. In view of the foregoing, the Pakistan delegation proposes that the chemical weapons convention should contain the following provisions in regard to herbicides:

- "Each State party undertakes not to use herbicides as a method of warfare."
- "For the purpose of this Convention, herbicides mean chemical substances which, due to their direct toxic effects, interfere with life processes of plants in a harmful manner."

German
Democratic
Republic

CD/CW/WP.119

National Verification
Measures to Implement
the Convention on the
Prohibition of Chemical
Weapons

Also issued
as CD/620
23 July 1985

NOT REPRODUCED
(see WP volume)

Ad Hoc Committee on Chemical Weapons

Working Paper by Poland

Criteria for a request for on-site verification
and for the explanation of a refusal of the request
(to be considered as part of Article IX)

A request for on-site verification by challenge shall meet the following criteria:

1. It shall be based on documents, objects and material samples, scientific data and literature, witnesses, etc., which constitute the justification for suspicion and doubt:
2. It shall:
 - (a) be directly related to the scope of the Convention
 - (b) have sufficient credibility
 - (c) indicate clearly the location and time of an event or activity which gave rise to suspicion or doubt
 - (d) deal with an event or activity which have characteristics of repetitiveness, or continuity, or substantial size, or all these features together, or it shall in any other way clearly point to a purposeful activity which constitutes a violation of the Convention.
3. It shall clearly indicate that the possibility for bilateral or multilateral consultations and co-operation was exhausted, or impossible to be applied, or there exist other reasons for not taking into account of this possibility.

The explanation of the refusal of the request for on-site verification by challenge shall meet the following criteria:

1. It shall contain evidence, supporting the points made
2. It shall indicate either impossibility of a violation of the Convention in time and in place indicated in the request for the verification or other reasons, which may prove the request to be groundless;

3. It shall prove that the refusing State Party made all available efforts in order to clear out the doubts by means of bilateral or multilateral consultations and co-operation, including the consultations and co-operation with the State Party requesting the verification;
4. It shall point out to particular reasons and circumstances for which the requested verification will jeopardize the supreme security interests of the refusing State Party.

Ad Hoc Committee on Chemical Weapons

WORKING PAPER

WORKING GROUP "A"

AUSTRALIA

VERIFICATION OF NON-PRODUCTION - DEVELOPMENT
OF CRITERIA FOR MONITORING NON-DIVERSION

1. The problem of the prevention of diversion of chemicals from civilian industry for military purposes has been addressed by a number of delegations. Over the years the Committee has considered what chemicals should be controlled and has discussed methods of control which would be effective and not unduly burdensome to the chemical industry throughout the world. The United Kingdom delegation has made detailed suggestions which have carried our discussions forwards (CD/514). The Netherlands paper (CD/445) and Yugoslavia's paper (CD/613) also make important suggestions.
2. The chemical industry is large and complex. Further, the production of chemical weapons could proceed by different chemical routes and use some different precursors. It is also true that some of the main chemical building blocks for chemical weapons are widely used for legitimate peaceful purposes. Thus the task of verification of non-diversion from civilian industry will require us to show ingenuity in sorting out relevant chemicals and in deciding on the level of monitoring that is needed.
3. The Australian delegation has already suggested a general approach to this problem. This approach incorporates and builds on the work of many other delegations. It is our tentative synthesis of views expressed by many speakers.
4. It was noted in the Australian Plenary Statement of 18 April that much information about the chemical industry is available to Governments. There is already a data base which can form a foundation for the monitoring of chemicals which might be diverted. In Australia an inventory is kept of all chemicals produced in quantity greater than 1 tonne. If it is desired to make any new compound this must be registered, along with full details including its mammalian toxicity. Other nations have or are about to acquire such inventories. The information they contain would form a starting point for monitoring.

5. Chemicals which have been designated as posing a threat to the Convention could be identified from such inventories. We have suggested that they should then be followed by a process of materials accountancy throughout their lifetime.
6. What chemicals are to be monitored in this way? Inspectors will require a list. Some chemicals will require more stringent control measures than others; thus the list must be divided into categories.
7. What guidelines are we to apply when drawing up lists? The United Kingdom has rightly focused, in its paper CD/514, on the concept of chemicals which pose a threat to the Convention. This is a concept of risk. This concept is fundamental to our consideration of what chemicals require control. However, taken in isolation it lacks predictive value. The level of toxicity of a chemical, as set out in CD/112, is non-subjective and predicts what chemicals, not yet produced, may require control. If it is decided that these as yet undiscovered chemicals will need control then we may need to look at some of their precursors also.
8. We can list chemicals which might today present a threat to the Convention. It is well recognized that such a list will not remain adequate for all time.
9. Setting of criteria for lists and the lists as such involve complementary thought processes. A list must be evaluated against criteria, implicit or explicit. It would also be possible to draw up intellectually satisfying criteria which might not cover all possibilities. To some extent we draw up criteria with specific compounds in mind. Thus criteria and lists should support each other, and should not exist in the Convention in isolation from each other.
10. The concept of the threat that chemicals may pose to the Convention involves an estimate of relative risk. We may need to place chemicals in two or three categories, so as to ease the burden of verification. The toxicity of a compound will be an important criterion for our estimate of risks. However, to be suitable for weapons purposes a chemical would need to be available in quantity, be stable in storage and easy to produce and disseminate. Thus the toxicity criterion is an important but not a singular criterion.
11. How would we propose to rank chemicals, so that those most likely to pose a threat to the Convention are banned or stringently controlled, whilst we maintain our aim of minimal interference with the chemical industry? Our approach would be to suggest the following guidelines:

- (1) Chemicals which could be banned. These should be listed by chemical families with specific examples. Thus sarin, soman and VX are examples of supertoxic lethal chemicals with no civilian use. Precursors for these compounds which have no civilian use could also be banned. This ban will not of course apply to the small amounts of such compounds required for protective purposes.

(2) Supertoxic lethal chemicals with a legitimate use. These should be subject to stringent processes of inspection, materials accountancy and justification of use. It is likely that there will be only a small number of these, which will include pharmaceuticals already subject to control. Key precursors for supertoxic lethal compounds which have some small scale civilian use should attract a similar verification régime.

(3) Other precursors for supertoxic lethal compounds with a large scale civilian use should be monitored by data exchange and materials accountancy. This third category would also include other lethal compounds which have a large scale civilian use.

12. Other lethal chemicals will include a number of toxic compounds which are widely used by industry. Some of these were used as weapons in World War I and may still be included in military stockpiles. These will be eliminated because they are chemical weapons. However, Working Group A, inter alia, has considered how such "dual purpose" chemicals would be controlled after military stockpiles have been eliminated. This then becomes one case of the general problem of how best to ensure that toxic chemicals and their precursors are not diverted from industry for prohibited purposes.

13. Phosgene is an example of an "other lethal" chemical which must be monitored. There are, however, many other compounds used in industry which are sufficiently toxic to fall into this category. They are not designated "dual purpose" because they have never been used in warfare. We will need to take account of these chemicals, even if their diversion for prohibited purposes seems very unlikely. Examples are some isocyanates, some carbamates and some organofluorine compounds.

14. It is obvious that the division of chemicals into categories 2 and 3 (paragraph 11 above) will require judgement and may change with time. To cover this problem chemicals in category 3 should be subject to spot checks on a basis to be decided by the Consultative Committee.

15. Methods and frequency of random inspections may be worked out after lists are decided. (Procedures should be flexible to take account of changes in circumstances.) The magnitude of the task will be considerable. Further, verification of non-diversion will extend over the lifetime of the Convention.

16. In summary, we suggest the following procedures to ensure that chemicals are not diverted from industry for military purposes:

- Materials accountancy (including quantity produced, end-user and purpose of production).
- Routine, random inspections of chemical industry.
- Import/export regulations and customs checks.
- Challenge inspection to resolve ambiguities.

CONFERENCE ON DISARMAMENT

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

Working Group C

Article VIII

Consultative Committee

1. The State Parties to this Convention shall establish a Consultative Committee [upon] [within 30 days after the] entry into force of this Convention. Each State Party to this Convention shall be entitled to appoint a representative to the Consultative Committee.
2. The Consultative Committee shall [oversee] [review] the implementation of the Convention, consider any questions or matters relevant to the Convention or relating to the powers and functions of any organs established under the Convention, foster international consultations and co-operation among States Parties to the Convention, and promote the verification of compliance with this Convention.
3. For the purposes of this Convention the Consultative Committee shall be responsible for:^{*/}
 - (a) establishing, and revising as necessary, procedures for exchange of information, for declarations and for technical matters related to the implementation of this Convention;
 - (b) receiving, keeping [and making available to States Parties] declarations, plans and notifications presented by States Parties in accordance with Articles ...;

^{*/} The enumeration of responsibilities listed in paragraph 3 was not considered to be exhausted.

- (c) carrying out all activities relating to the execution of measures of verification as specified in this Convention; further specifying procedures for the conduct of systematic international on-site inspection; overseeing and carrying out systematic international on-site verification in accordance with Articles ...; receiving and considering requests for fact-finding procedures and to conduct such procedures in accordance with Article ...;
- (d) cooperating with the national authorities of States Parties in the implementation of the Convention;
- (e) facilitating consultations and cooperation among States Parties at their request by means of rendering services to them;
- (f) reviewing scientific and technical developments which could affect the operation of this Convention;
- (g) encouraging international scientific and technical co-operation in the chemical field for peaceful purposes.

4. The Consultative Committee shall establish an Executive Council [within 45 days after entry into force of the Convention]. The Council shall be composed of representatives of [15] States Parties on the basis of an appropriate geographic [and political] balance. [In addition, those permanent members of the Security Council of the United Nations who are Parties to the Convention should be represented.] The [elected] members of the Executive Council shall serve for [two][three] year period, with [five] of the members replaced or reelected each year.

5. [The Executive Council shall have delegated authority to carry out the functions of the Consultative Committee when it is not in session.]^{*/} The Executive Council shall report to the Consultative Committee about the exercise of the functions delegated to it.

6. The Consultative Committee shall meet in regular session annually; it shall hold extraordinary sessions at the request of the majority of States Parties to this Convention.

^{*/} The division of responsibility between the Consultative Committee and the Executive Council and the detailed functions of the latter remain to be

7. Any decision of substance of the Consultative Committee and the Executive Council requires a [two-third majority] [consensus], any other decision requires a simple majority.^{*/}

8. The States Parties to this Convention shall establish a Technical Secretariat that shall provide administrative support to the Consultative Committee and the Executive Council and render technical assistance to States Parties and the Executive Council.

9. Further functions and the organization of the Consultative Committee and its subsidiary organs are specified in Annex ...

^{*/} An opinion was expressed that the concept of consensus encompasses that in case the Executive Council is unable to reach a consensus on a given subject matter, all views expressed should be made known to the States Parties of the Convention.

5 August 1985

Original: ENGLISH

Ad Hoc Committee on Chemical WeaponsReport of the Chairman of the Open-ended Consultations
of the Ad Hoc Committee on Chemical Weapons

1. In accordance with the terms of reference outlined by the Chairman of the Ad Hoc Committee on Chemical Weapons in document CD/CW/WP.98 dated 27 February 1985, the Open-ended Consultations considered the question of the prohibition of the use of chemical weapons and the question of herbicides.
2. It was agreed at the first Open-ended Consultations in spring that within the terms of reference, the Open-ended Consultations would deal with the following four elements:
 - (a) the prohibition of the use of chemical weapons;
 - (b) the link of the prohibition of the use of chemical weapons to the 1925 Geneva Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare;
 - (c) the prohibition of the use of herbicides as a method of warfare;
 - (d) the verification of the prohibition of the use of chemical weapons and of the prohibition of the use of herbicides as a method of warfare.
3. As reported in document CD/CW/WP.107 dated 22 April 1985, in the spring session of the Conference on Disarmament the Open-ended Consultations dealt with the first two elements, i.e. the prohibition of the use of chemical weapons and the link of the prohibition of the use of chemical weapons to the 1925 Geneva Protocol. A convergence of views has emerged from the consultations on a set of provisions dealing with the two elements as contained in the Annex of document CD/CW/WP.107, which in the view of the Chairman constitutes a basis for consensus to be reached after further consultations.
4. In the second part of the session, the Open-ended Consultations considered the two remaining elements, i.e. the question of the prohibition of the use of herbicides as a method of warfare and the question of verification of the use of chemical weapons and of the prohibition of the use of herbicides.
5. Seven meetings of the Open-ended Consultations were held from 18 June to 5 August 1985.

GE.85-63502

Prohibition of the use of herbicides as a method of warfare and its verification

6. The Open-ended Consultations discussed the problem concerning the prohibition of the use of herbicides as a method of warfare and had considered the formulation of such a prohibition contained in the annex of document CD/539 and the informal proposal of the Delegation of Sweden submitted in January 1985.

7. In the course of the discussions, the Open-ended Consultations also considered the informal proposals on the prohibition of the use of herbicides submitted by the delegations of China, Iran, Pakistan, Sri Lanka and USSR, as well as the informal working papers submitted by the delegation of the Netherlands and by the delegation of Sweden on 15 July 1985 and the working paper submitted by the delegation of Pakistan in document CD/CW/WP.118 dated 22 July 1985.

8. There is a general understanding that the use of herbicides as a method of warfare should be prohibited; obviously such a prohibition should not preclude any other use of herbicides. It is also generally understood that herbicides are not to be considered as chemical weapons.

9. Several delegations were of the view that such a prohibition should be provided in the convention banning chemical weapons, while several other delegations took the view that it could be incorporated in a separate legal instrument such as a protocol to be attached to the convention. Some delegations who considered the possibility of a separate instrument dealing specifically with the prohibition of the use of herbicides attached to the convention were of the opinion that the convention must expressly provide that the separate instrument constitutes an integral part of the convention. Suggestion was also made that the separate instrument would not be attached to the convention; there could be provisions in both instruments providing for their simultaneous signature and ratification.

10. Delegations were generally of the view that a provision banning the use of herbicides as a method of warfare should be complemented with a clear understanding that herbicides mean chemical substances which, due to their purpose and direct effects, interfere with life processes of plants.

11. Delegations felt that future provisions prohibiting the use of herbicides as a method of warfare should not be interpreted as in any way impairing the applicable rules of international law pertaining to the use of herbicides.

12. In this connection, certain delegations were of the view that the existing legal instruments relating to the use of herbicides should be examined to determine their adequacy in prohibiting the use of herbicides. Several other delegations took the view that those existing legal instruments do not adequately deal with the use of herbicides.

13. A few delegations referred to another important aspect of the problem, namely the question of verification of the prohibition of the use of herbicides. However, the question was not discussed for lack of time and needs to be fully addressed at the next session.

14. Chairman's informal suggestions on a possible wording:

In view of the progress made in the discussions in the Open-ended Consultations, the Chairman believes that in order to facilitate further progress, an attempt should be made to reflect the main trends of the discussions so far in a set of wording. For that purpose, and without prejudice to the final position of delegations, the Chairman suggested the following wording which shall not bind any delegations:

- (1) Each State party undertakes not to use herbicides as a method of warfare; such a prohibition should not preclude any other use of herbicides.
- (2) For the purpose of this Convention, herbicides mean chemical substances which, due to their purpose and direct effects, interfere with life processes of plants.
- (3) The provision of paragraph (1) shall not be interpreted as in any way impairing the applicable rules of international law pertaining to the use of herbicides.

Verification of the prohibition of the use of chemical weapons

15. Open-ended consultations on the question of verification of the prohibition of the use of chemical weapons were held, in which the report of the Co-ordinator of the consultations on the prohibition of the use of chemical weapons on the criteria for the objective and impartial verification of a prohibition of use of chemical weapons contained in annex II of CD/416 dated 22 August 1983 and the informal Working Paper of the Chairman of the Open-ended Consultations dated 8 July 1985 were used as basis for discussions.

16. There was an exchange of general views on certain aspects relating to the subject. In the course of the discussions, the Observer Delegation of Norway made a statement on its Working Paper contained in document CD/601 dated 20 June 1985. The discussions were, however, not exhaustive.

17. It is generally understood that provisions in the Convention for international verification by means of challenge procedure shall apply equally to complaints of the use of chemical weapons in violation of the Convention.

18. In view of the specific nature of the situations where chemical weapons are alleged to be or to have been used, several delegations were of the view that specific provisions in the Convention dealing with international verification of complaints on the use of chemical weapons were deemed appropriate. Such specific provisions should however be elaborated in close conjunction with the elaboration of provisions on verification as a whole, as some of those provisions might be equally applicable to the verification of the prohibition of the use of chemical weapons.

19. In discussing such specific provisions on verification of the prohibition of the use of chemical weapons - to constitute a part of a general régime of verification - several elements were mentioned:

- (a) the need for a short time limit for the commencement of an on-site investigation requested by a State Party, carried out by the Consultative Committee.

(b) the need for the State Party lodging the complaint and requesting an on-site investigation to provide relevant information concerning the alleged use of chemical weapons.

(c) the need for all States Parties to give access to the team of experts assigned by the appropriate organ of the Consultative Committee to conduct an on-site investigation.

(d) the need for the State Party in whose territory the team of experts is to conduct its activities to endeavour to ensure the safety of the members of the team of experts.

(e) the need for the Consultative Committee to draw up inter alia:

- a list of experts;
- a list of laboratories;
- a list of equipment needed;
- a guideline for the collection and analysis of information and samples.

20. In-depth discussions on the question of verification of the prohibition of the use of chemical weapons, and in particular discussions on the possible elements of specific provisions on the subject, are required.

Ad Hoc Committee on Chemical Weapons

Report of the Chairman of the Open-ended Consultations
of the Ad Hoc Committee on Chemical Weapons

Corrigendum

Page 3, paragraph 14

At the end of the first sentence insert the following "which does not constitute a final draft".

5th line: Delete the word "final" before the word "position".

Page 3, paragraph 16

The last sentence should now read as follows: "Substantive discussions had, however, hardly begun."

CONFERENCE ON DISARMAMENT

CD/CW/WP.124
7 August 1985

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

REPORT OF WORKING GROUP B

1. Working Group B held 12 meetings from 15 March to 7 August 1985. In addition the Chairman held a number of informal consultations with delegations.
2. In accordance with the terms of reference (CD/CW/WP.98), the Working Group dealt with the questions of declarations and elimination of chemical weapons and chemical weapons production facilities.
3. The result of the work is presented below in the form of draft texts for
 - Article III on Declarations, and its Annex (Annex III),
 - Article IV on Elimination of Chemical Weapons, and its Annex (Annex IV), and
 - Article V on Measures on Chemical Weapons Production Facilities, and its Annex (Annex V).
4. In accordance with the mandate for the Ad Hoc Committee on Chemical Weapons (CD/551) the texts are not binding for any delegation at this stage of the negotiations. Bearing this in mind, Working Group B recommends that the texts presented in this report be used as the basis for future work on these issues.

GE.85-63581

A R T I C L E I I I

D E C L A R A T I O N S

Declarations of chemical weapons¹⁾ and plans for their
elimination²⁾³⁾

1. Each State Party undertakes to submit to the Consultative Committee, not later than 30 days after the Convention enters into force for it, declarations stating

(a) whether it possesses or does not possess any chemical weapons on its territory or elsewhere under its jurisdiction or control,

(b) whether it has on its territory any chemical weapons under the jurisdiction or control of anyone else,

(c) whether it has transferred control of chemical weapons since ... or has received such weapons since that date.⁴⁾

2. Each State Party possessing chemical weapons undertakes to submit to the Consultative Committee, not later than 30 days after the Convention enters into force for it, declarations stating the aggregate quantity and detailed composition of its chemical weapons.

3. Each State Party possessing chemical weapons undertakes to submit to the Consultative Committee not later than ... months⁵⁾ after the Convention's entry into force for it, general plans for the elimination of its chemical weapons based on the Principles for the Order of Elimination laid down in Annex IV.

1) In accordance with agreed definitions.

2) In accordance with the provisions in Article IV.

3) The question of old unknown weapons or stocks which have been left by others without the knowledge of the State Party is not addressed in this Article. It is understood that this question will be dealt with at a later stage of the negotiations at which time the placement in the Convention of the relevant provisions will also be decided.

4) The view was expressed that past transfers should not be included in the Convention.

5) 3 and 6 months have been proposed.

4. Each State Party possessing chemical weapons undertakes to submit to the Consultative Committee declarations stating the locations and detailed inventories of their chemical weapons stocks as well as detailed plans for their elimination. These declarations and plans shall be submitted not later than 3 months before the commencement of each elimination period¹⁾ specified in the Principles for the Order of Elimination in Annex IV, and shall encompass all stocks to be eliminated during the next coming such period.

5. State Parties shall consult among themselves and through the Consultative Committee, as soon as possible after the declarations made in accordance with paragraph 2 of this Article, with the view to coordinating their plans.

6. The declarations and plans under Article III, paragraphs 1 through 4, shall be made in accordance with Annex III.

7. Each State Party undertakes to submit to the Consultative Committee annual progress reports on the implementation of the plans for the elimination of chemical weapons and a notification of the completion of the elimination within 30 days thereafter.

8. Annex III and Annex IV constitute integral parts of the Convention.

Declarations of chemicals which could be used for chemical weapons purposes but which are intended for permitted purposes²⁾

Declarations of chemical weapons production facilities
(To be elaborated)

Verification of declarations
(To be elaborated)

1) Some delegations held the view that overall declarations should be made within 30 days after the Convention's entry into force for a State Party.

2) In accordance with the organization of work (WP.98) these provisions are to be elaborated in the context of Article VI taking into account inter alia some harmful chemicals, to be elaborated.

A N N E X 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

If yes, information about location(s), expressed by name(s) of state(s).

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

Yes
No

If yes, information about ownership, expressed by name(s) of state(s).

C. Past transfers¹⁾

If there has been transfer of control of chemical weapons since ..., or reception of such weapons since that date, the following information shall be provided. To be elaborated.

D. Aggregate quantity and detailed composition of chemical weapons

1. Chemicals

1.1. Toxic chemicals²⁾

In cases involving mixtures of two or more toxic chemicals all such components should be specified as well as the percentage of the mixtures.

1) The view was expressed that past transfers should not be included in the Convention.

2) In accordance with agreed definition.

1.1.1. Super-toxic lethal chemicals¹⁾

Scientific chemical name ²⁾ Structural formula ³⁾ and Toxicity (of pure substance)	Bulk			Filled in munition Quantity (metric tons)	Total quantity (metric tons)
	Purity ⁴⁾ %	Quantity (metric tons)	Number and size of con- tainers		
Chemical A Chemical B etc					

1.1.2. Other lethal chemicals¹⁾

Scientific chemical name ²⁾ Structural formula ³⁾ and Toxicity (of pure substance)	Bulk			Filled in munition Quantity (metric tons)	Total quantity (metric tons)
	Purity ⁴⁾ %	Quantity (metric tons)	Number and size of con- tainers		

1.1.3. Other harmful chemicals⁵⁾

Scientific chemical name ²⁾ Structural formula ³⁾ and Toxicity (of pure substance) if applicable	Bulk			Filled in munition Quantity (metric tons)	Total quantity (metric tons)
	Purity ⁴⁾ %	Quantity (metric tons)	Number and size of con- tainers		

1) In accordance with agreed definition.

2) In accordance with the IUPAC (International Union of Pure and Applied Chemistry) Nomenclature.

3) Different views exist whether it is necessary to state both the scientific chemical name and the structural formula in order for the declarations to be unambiguous.

4) Three different approaches were taken by delegations: 1) Initial purity 2) Purity of the compound as stored with an approximation of some 10% 3) That declaration of purity was not necessary.

5) In accordance with agreed definition, but pending such a definition it is unclear which chemicals to declare in this table.

1.2.¹⁾

Scientific chemical name ²⁾ / Structural formula ³⁾	Quantity (metric tons)	Number and size of containers
<u>Key precursors for unitary systems</u> ⁴⁾		

Scientific chemical name ²⁾ / Structural formula ³⁾	Bulk		Filled in munition/ submunition (metric tons)	Total quantity (metric tons)
	Quantity (metric tons)	Number and size of con- tainers		
<u>[Key components] [Key precursors] for multi-component systems</u> ^{4) 5) 6)}				

1) The view was expressed that these two tables were not necessary and that key precursors and key components could be declared under points 1.1.1, 1.1.2 and 1.1.3 as applicable.

2) In accordance with the IUPAC (International Union of Pure and Applied Chemistry) Nomenclature.

3) Different views exist whether it is necessary to state both the scientific chemical name and the structural formula in order for the declarations to be unambiguous.

4) To be declared separately for super-toxic lethal, other lethal and other harmful chemicals.

5) Identified in accordance with approaches to be worked out in the context of Article II.

6) Some delegations suggested that multicomponent chemical weapons should not be declared as a special category in a separate table.

1.3. Precursors¹⁾ in bulk²⁾

Scientific chemical name ³⁾ / Structural formula ⁴⁾	Quantity (metric tons)	Number and size of containers
<p><u>Precursors for unitary systems</u></p> <p><u>Components for multicomponent systems</u>⁵⁾</p>		

- 1) Identified in accordance with approaches to be worked out in the context of Article II.
- 2) Some delegations did not consider this table necessary.
- 3) In accordance with the IUPAC (International Union of Pure and Applied Chemistry) Nomenclature.
- 4) Different views exist whether it is necessary to state both the scientific chemical name and the structural formula in order for the declarations to be unambiguous.
- 5) Some delegations suggested that multicomponent chemical weapons should not be declared as a special category in a separate table.

Munitions

	Calibre (if applicable)	Quantity of unfilled munition/submunition (number of pieces) ¹⁾	Filled munition/submunition Quantity (number of pieces)	Chemical fill (in kg per piece of munition/submunition)
<u>itary</u> <u>emical</u> <u>pe</u> <u>amples:</u> all rtridge :ket warhead <u>litic component</u> <u>emical type</u>	155 mm 120 mm 155 mm	22.000 500 warhead bodies 1.500 submunitions 100 shell bodies 200 cannisters A 300 cannisters B	13.000 8.000 1.000 warheads 100 submunitions 500 (completed shells, components stored separately) 100 cannisters A 150 cannisters B	2.82 kg of chemical x 1.12 kg of chemical y 50 kg of chemical Z (50 x 1 kg submunitions) 3 kg chemical A + B 2 kg chemical A 1 kg chemical C

Other Devices

Type	Quantity of unfilled devices (number of pieces)	Filled devices Quantity (number of pieces) Chemical fill (in kg/piece)
(Example: spraytanks)		

) Some delegations did not consider this column necessary.

4. Equipment specifically designed for use directly in connection with the employment of munitions and other devices under points D:2 and 3. (Example: single purpose rocket launchers.)

5. Chemicals specifically designed for use directly in connection with the employment of munitions and other devices under points D:2 and 3. (Example: thickeners.)¹⁾

E. Locations and detailed inventories of chemical weapons stocks to be declared before the commencement of each elimination period²⁾

For each stock the following shall be declared:

1. Location

Geographical location expressed by ...

2. Detailed inventory

Composition and quantities of the chemical weapons shall be declared in accordance with paragraph D of this Annex.

1) 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.

2) Some delegations held the view that overall declarations should be made within 30 days after the Convention's entry into force for a State Party.

II. PLANS FOR THE ELIMINATION OF CHEMICAL WEAPONS

A. General plans

The following chemical weapons shall be eliminated during Elimination Period I:1)2)

The following chemical weapons shall be eliminated during Elimination Period II:1)2)

etc

B. Detailed plans

They shall include:

- schedules indicating detailed timeframes, quantities and types of chemical weapons to be destroyed or diverted to permitted purposes³⁾ in accordance with the Principles for the Elimination laid down in Annex IV,
- location of facilities to be used for destruction or diversion³⁾ and information confirming that the facilities can consume the quantities to be eliminated within the elimination period,
- methods to be used for the destruction or diversion³⁾, as well as the end products,
- plans for verification of the destruction and diversion³⁾ processes based on the Principles and Methods for the Verification of the Elimination of Chemical Weapons laid down in Annex IV.

1) Some delegations held the view that overall declarations should be made within 30 days after the Convention's entry into force for a State Party.

2) Chemical weapons shall be described and amounts indicated in a manner identical to that of the declarations.

3) One delegation stated that it was unconvinced that diversion was either a practical or economical method for elimination. It may be prepared, however, to review its position in the event a practical system for diversion can be devised, preserving the requirement for effective verification.

ARTICLE IV

ELIMINATION OF CHEMICAL WEAPONS¹⁾

1. Each State Party possessing chemical weapons undertakes to eliminate through destruction or diversion²⁾, as rapidly as possible, all chemical weapons under its jurisdiction or control in accordance with the Principles for the Elimination of Chemical Weapons laid down in Annex IV.

2. The elimination shall commence within ...³⁾ months and be completed within 10 years after the Convention's entry into force for a State Party, and shall be carried out in accordance with the Principles for the Order of Elimination laid down in Annex IV and the plans submitted under Article III.

3. The elimination process shall be carried out in such a way that the end products are unsuitable for chemical weapons purposes.

4. Each State Party possessing chemical weapons undertakes to facilitate and not to hinder in any way the application of the Principles and Methods for the Verification of the Elimination of Chemical Weapons, laid down in Annex IV.

5. In implementing the provisions of this article all necessary safety precautions shall be observed to protect populations and the environment.

1) The question of old unknown weapons or stocks which have been left by others without the knowledge of the State Party, is not addressed in this Article. It is understood that this question will be dealt with at a later stage of the negotiations at which time the placement in the Convention of the relevant provisions will also be decided.

2) One delegation stated that it was unconvinced that diversion was either a practical or economical method for elimination. It may be prepared, however, to review its position in the event a practical system for diversion can be devised, preserving the requirement for effective verification.

3) The figure to be inserted here depends on a later decision as regards the Principles for the Order of Elimination in Annex IV.

A N N E X

A State Party shall decide for itself which methods, processes and techniques to use for the elimination of its chemical weapon, if any, in accordance with the principles laid down in this Annex.

I. PRINCIPLES FOR THE ELIMINATION OF CHEMICAL WEAPONS

All chemical weapons shall be eliminated through destruction or diversion. Limited quantities of chemicals may be retained as specified in Article VI.

A. Destruction of chemical weapons

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.

Elimination through destruction shall apply to all chemical weapons except those which may be diverted.

B. Diversion of chemical weapons

Diversion of chemical weapons means a process by which chemical weapons are converted in an essentially irreversible way into end products that may only be used for purposes other than those related to chemical weapons.

Elimination through diversion may not apply to super-toxic lethal chemicals or key components of multi-component systems.

Elimination through diversion may apply to ... (To be elaborated.)

II. PRINCIPLES FOR THE ORDER OF ELIMINATION

A. The elaboration of Principles for the Order of Elimination could build on the following:

- undiminished security for all states during the entire elimination stage,
- confidence building in the early part of the elimination stage,
- applicability irrespective of the actual composition of the stockpiles, and
- applicability irrespective of the methods chosen for the elimination of the chemical weapons.

B. The elaboration of Principles for the Order of Elimination is in a very early stage of the negotiations. The preliminary approach has so far been based on the following:

- that the entire elimination stage be divided into x number of elimination periods,
- that the chemical weapons to be eliminated be divided into groups,
- that certain percentages of the initial aggregate amount of each group of chemical weapons be eliminated during each elimination period, and
- that methods for comparing stockpiles of different composition be elaborated.

This approach could be illustrated as follows:

	Elimination period		
	I	II	III
Group of chemical weapons	1 - 4 years after entry into force	4 - 7 years after entry into force	7 - 10 years after entry into force
Group A	40%	30%	30%
Group B	40%	30%	30%
Group C	100%	0%	0%
Group D	30%	40%	30%
Group E	30%	30%	40%

(It should be noted that the number and length of the elimination periods, the various percentages and the number of Groups are intended only as examples.)

III. PRINCIPLES AND METHODS FOR THE VERIFICATION OF THE
ELIMINATION OF CHEMICAL WEAPONS

The detailed arrangements for the actual verification of the elimination shall be worked out in collaboration between the State Party and the Consultative Committee (or its subsidiary organs, as appropriate) in accordance with the following principles:

A. Principles and methods for the verification of destruction
of chemical weapons

The principles summarized in CD/CW/WP.108 are to be further elaborated. They read:

- "- that the aim of the verification procedures should be
 - to confirm the identity and quantity of the materials to be destroyed, and
 - to confirm that the materials have actually and completely been destroyed,
- that a combination of human inspection and monitoring with instruments would be necessary for effective verification, but that the exact combination of instruments and inspectors would have to be tailored after the specific destruction processes to be monitored,
- that inspection would be continuous during periods in which destruction operations are under way for destruction of supertoxic lethal chemicals, draining of filled munitions as well as during destruction of filled and drained munition. As regards other chemicals there were different views on whether inspection should be continuous or on a quota basis or limited to certain key stages,
- that international inspectors would have to be qualified and impartial personnel, and that they should be able to make independent judgements,
- that the inspectors should have an up-to-date knowledge of the design and operation of the destruction facility and that they would need to make a detailed engineering review of the facility, including on-site inspection, before the destruction operations begin,
- that in order to minimize intrusion and ensure confidence, the data used for verification should be as closely linked as possible to the actual destruction step and the verification procedures designed so that they do not unnecessarily interfere with the operations of the facility,

- that, to the extent consistent with the needs, the verification procedures should make use of information from routine facility operations, and that the same verification procedures should, to the extent possible, be used for different processes within one and the same facility,

- that close co-operation between international verification personnel and host state operating personnel was important for effective international verification, and

- that, while the decisions as regards destruction methods etc lies with the sovereign State Party, the Technical Secretariat could have some role to play. It could, inter alia, assist States Parties with experts for the designing of destruction facilities, and give suggestions on how to facilitate the verification tasks. It seemed, however, to be agreed that such assistance should be given by the Technical Secretariat, only upon request from a State Party."

B. Principles and methods for the verification of diversion of chemical weapons for permitted purposes

(To be elaborated.)

A R T I C L E V1)

M E A S U R E S O N C H E M I C A L W E A P O N S
P R O D U C T I O N F A C I L I T I E S²⁾

DECLARATIONS^{3) 4)}

Declarations of chemical weapons production facilities and
plans for their elimination

1. (An undertaking by States Parties) to submit to the
Consultative Committee, not later than 30 days after the
Convention enters into force for it, declarations stating

(a) whether it possesses or does not possess any chemical
weapons production facilities on its territory or
elsewhere under its jurisdiction or control,

(b) whether it has on its territory any chemical weapons
production facilities under the jurisdiction or control of
anyone else,

(c) whether it has transferred equipment or technical
documentation⁵⁾ relevant for production of chemical
weapons since ... or has received such equipment or
documentation⁵⁾ since that date.⁶⁾

1) The text of this Article and its Annex is in an early
stage of negotiations.

2) In accordance with definitions still to be worked out in
the context of Article II. It is understood that the
definition will encompass also filling facilities.

3) The provisions on Declarations (+ relevant part of
Annex V) will presumably be moved to Article III and its
Annex, once they have been further negotiated.

4) Some delegations stressed that overall declarations should
encompass not only production facilities with a production
for chemical weapons purposes but also other facilities
producing chemicals which can be used for chemical weapons
purposes. It is understood that for the time being the
paragraphs under the heading "Declarations of chemical
weapons production facilities and plans for their
elimination" refers only to production facilities with a
production for chemical weapons purposes. A separate heading
"Declarations of other facilities producing chemicals which
can be used for chemical weapons purposes" has been inserted
to indicate that the question of declaration of such
facilities will need to be worked on.

5) The view was expressed that technical documentation should
not be included.

6) The view was expressed that past transfers should not be
included in the Convention.

2. (An undertaking by State Parties possessing chemical weapons production facilities) to submit to the Consultative Committee, not later than 30 days after the Convention enters into force for it, initial declarations stating their total production capacity.¹⁾²⁾

3. (An undertaking by States Parties possessing chemical weapons production facilities) to submit to the Consultative Committee, not later than 30 days after the Convention enters into force for it, a declaration that all activities related to production of chemical weapons have ceased.³⁾

4. (An undertaking by States Parties possessing chemical weapons production facilities) to submit not later than ..⁴⁾ plans for the closure³⁾, plans for temporary conversion into chemical weapons destruction facilities, if any, and general plans for the elimination of their production facilities, as well as plans, if any, for conversion into facilities for production for permitted purposes⁵⁾.

1) Some delegations stressed that overall declarations should encompass not only production facilities with a production for chemical weapons purposes but also other facilities producing chemicals which can be used for chemical weapons purposes. It is understood that for the time being the paragraphs under the heading "Declarations of chemical weapons production facilities and plans for their elimination" refers only to production facilities with a production for chemical weapons purposes. A separate heading "Declarations of other facilities producing chemicals which can be used for chemical weapons purposes" has been inserted to indicate that the question of declaration of such facilities will need to be worked on.

2) Some delegations held the view that all States Parties should declare their total production capacity. Other delegations felt that it was not necessary in this context to declare the total production capacity, and therefore that the entire paragraph was not necessary.

3) Some delegations expressed the view that ceasing of production and closing of production facilities should be simultaneous. However, other delegations had doubts about the feasibility of this from the point of view of verification of the closure as well as from the point of view of possible temporary conversions of such facilities into facilities for destruction of chemical weapons.

4) The view was expressed that an early date should be set.

5) Some delegations held the view that conversion of chemical weapons production facilities into facilities for production for permitted purposes should not take place.

5. (An undertaking by State Parties possessing chemical weapons production facilities) to submit to the Consultative Committee detailed declarations stating the locations and detailed information on their chemical weapons production facilities as well as detailed plans for the elimination. These declarations and plans shall be submitted not later than 3 months before the commencement of the elimination¹⁾, as specified in the Principles for the Order of Elimination of Chemical Weapons Production Facilities laid down in Annex V.

6. The declarations and plans to be submitted under paragraphs 1 through 5 shall be made in accordance with Annex V.

7. State Parties shall consult among themselves and through the Consultative Committee, as soon as possible after the declarations made in accordance with paragraph 2 with the view to coordinating their elimination plans.²⁾

8. (An undertaking by each State Party possessing chemical weapons production facilities) to submit to the Consultative Committee annual progress reports on the implementation of the plans for the elimination of chemical weapons production facilities and a notification of the completion of the elimination within 30 days thereafter.

Declarations of other facilities producing chemicals which can be used for chemical weapons purposes³⁾

1) The view was expressed that declaration of location should be made in the context of declarations that production have ceased.

2) The view was expressed that as regards elimination of chemical weapons production facilities such an obligation was not necessary.

) Some delegations stressed that overall declarations should encompass not only production facilities with a production for chemical weapons purposes but also other facilities producing chemicals which can be used for chemical weapons purposes. It is understood that for the time being the paragraphs under the heading "Declarations of chemical weapons production facilities and plans for their elimination" refers only to production facilities with a production for chemical weapons purposes. A separate heading "Declarations of other facilities producing chemicals which can be used for chemical weapons purposes" has been inserted to indicate that the question of declaration of such facilities will need to be worked on.

ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

9. (An undertaking by Each State Party possessing chemical weapons production facilities) to cease all activities at its chemical weapons production facilities relating to the production of chemical weapons, immediately after the Convention's entry into force for it, and to close each production facility not later than ...¹⁾ after the Convention's entry into force for it, in a manner that renders it inoperable for chemical weapons production.

10. (An undertaking by each State Party possessing chemical weapons production facilities) to eliminate through destruction or dismantling²⁾, the chemical weapons production facilities under its jurisdiction or control in accordance with the Principles for the Elimination of Chemical Weapons Production Facilities laid down in Annex V.

11. The elimination shall commence within ... months and be completed as soon as possible and in any case not later than 10 years after the Convention's entry into force for a State Party.

12. In implementing the provisions of this article all necessary safety precautions shall be observed to protect populations and the environment.

13. (An undertaking by State Parties) not in any way to acquire any new chemical weapons production facilities.³⁾

14. (An undertaking by States Parties possessing chemical weapons production facilities) to facilitate and not to hinder in any way the application of the Principles and Methods for the Verification of the Closure and Elimination of Chemical Weapons Production Facilities, laid down in Annex V.

1) Some delegations expressed the view that ceasing of production and closing of production facilities should be simultaneous. However, other delegations had doubts about the feasibility of this from the point of view of verification of the closure as well as from the point of view of possible temporary conversions of such facilities into facilities for destruction of chemical weapons.

2) The view was expressed that pending the definition of chemical weapons production facilities, the possibility for other ways of elimination should be kept open.

3) Some delegations did not consider this paragraph necessary.

A N N E X V

I. DECLARATIONS OF CHEMICAL WEAPONS PRODUCTION FACILITIES¹⁾

A. Possession or non possession²⁾

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

If yes, information about location(s), expressed by name(s) of state(s).

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

Yes

No

If yes, information about ownership, expressed by name(s) of state(s).

1) Some delegations stressed that overall declarations should encompass not only production facilities with a production for chemical weapons purposes but also other facilities producing chemicals which can be used for chemical weapons purposes. It is understood that for the time being the paragraphs under the heading "Declarations of chemical weapons production facilities and plans for their elimination" refers only to production facilities with a production for chemical weapons purposes. A separate heading "Declarations of other facilities producing chemicals which can be used for chemical weapons purposes" has been inserted to indicate that the question of declaration of such facilities will need to be worked on.

2) Some delegations held the view that all States Parties should declare their total production capacity. Other delegations felt that it was not necessary in this context to declare the total production capacity, and therefore that the entire paragraph was not necessary.

C. Past transfers¹⁾

If there has been transfer of equipment or technical documentation²⁾ relevant for production of chemical weapons since ..., or reception of such equipment or documentation²⁾ since that date, the following information shall be provided.

(To be elaborated.)

D. Initial declarations of chemical weapons production facilities

They shall contain the following information:

- (1) production, stating products by ...
- (2) capacity expressed as ...³⁾
- (3)
- (4)

E. Declarations that all activities related to production of chemical weapons have ceasedF. Detailed declarations of chemical weapons production facilities

They shall contain the following information:

- (1) Geographical location expressed by ...⁴⁾
- (2) Chemical names of products produced
- (3) Manufacturing/filling capacity for each substance expressed as ...³⁾
- (4)
- (5)

1) The view was expressed that past transfers should not be included in the Convention.

2) The view was expressed that technical documentation should not be included.

3) It was suggested that capacity be expressed as maximum hourly capacity.

4) The view was expressed that declaration of location should be made in the context of declarations that production have ceased.

II. PLANS FOR THE CLOSURE, ELIMINATION AND CONVERSION OF
CHEMICAL WEAPONS PRODUCTION FACILITIES

A. Plans for closure¹⁾ of chemical weapons production
facilities

B. Plans for temporary conversion of chemical weapons
production facilities into chemical weapons destruction
facilities

C. Plans for the elimination of chemical weapons production
capacities

1. General Plans

They shall include:

2. Detailed plans

They shall include:

D. Plans for elimination of chemical weapons production
facilities which have temporarily been converted into
chemical weapons destruction facilities

E. Plans for conversion of chemical weapons production
facilities into facilities for production for permitted
purposes²⁾

1) Some delegations expressed the view that ceasing of production and closing of production facilities should be simultaneous. However, other delegations had doubts about the feasibility of this from the point of view of verification of the closure as well as from the point of view of possible temporary conversions of such facilities into facilities for destruction of chemical weapons.

2) Some delegations held the view that conversion of chemical weapons production facilities into facilities for production for permitted purposes should not take place.

III. DECLARATIONS OF OTHER FACILITIES PRODUCING CHEMICALS WHICH CAN BE USED FOR CHEMICAL WEAPONS PURPOSES¹⁾

IV. ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

A State Party shall decide for itself which methods, processes and techniques to use for the elimination of its chemical weapons production facility, if any, in accordance with the principles laid down in this Annex.

A. PRINCIPLES FOR THE ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

All chemical weapons production facilities shall be eliminated through destruction or dismantling.²⁾ Chemical weapons production facilities may be temporarily converted into chemical weapons destruction facilities.

1. Destruction of chemical weapons production facilities

Destruction of chemical weapons production facilities means ...

Elimination through destruction shall apply to ...

2. Dismantling of chemical weapons production facilities

Dismantling of chemical weapons production facilities means ...

Elimination through dismantling may apply to ...

3. Elimination of chemical weapons production facilities temporarily converted into chemical weapons destruction facilities

4. Elimination of chemical weapons production facilities through conversion into facilities for production for permitted purposes³⁾

1) Some delegations stressed that overall declarations should encompass not only production facilities with a production for chemical weapons purposes but also other facilities producing chemicals which can be used for chemical weapons purposes. It is understood that for the time being the paragraphs under the heading "Declarations of chemical weapons production facilities and plans for their elimination" refers only to production facilities with a production for chemical weapons purposes. A separate heading "Declarations of other facilities producing chemicals which can be used for chemical weapons purposes" has been inserted to indicate that the question of declaration of such facilities will need to be worked on.

2) The view was expressed that pending the definition of chemical weapons production facilities, the possibility for other ways of elimination should be kept open.

3) Some delegations held the view that conversion of chemical

B. PRINCIPLES FOR THE ORDER OF ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

(To be elaborated.)

C. PRINCIPLES AND METHODS FOR THE VERIFICATION OF THE CLOSURE AND ELIMINATION OF CHEMICAL WEAPONS PRODUCTION FACILITIES

The detailed arrangements for the actual verification of the elimination shall be worked out in collaboration between the State Party and the Consultative Committee (or its subsidiary organs, as appropriate) in accordance with the following principles:

1. Principles and methods for the verification of closure of chemical weapons production facilities

(To be elaborated.)

2. Principles and methods for the verification of destruction of chemical weapons production facilities

(To be elaborated.)

3. Principles and methods for the verification of dismantling of chemical weapons production facilities

(To be elaborated.)

4. Principles and methods for the verification of elimination of chemical weapons production facilities which have temporarily been converted into chemical weapons destruction facilities

5. Principles and methods for the verification of elimination of chemical weapons production facilities through conversion into facilities for production for permitted purposes¹⁾

1) Some delegations held the view that conversion of chemical weapons production facilities into facilities for production for permitted purposes should not take place.

Ad Hoc Committee on Chemical Weapons

Working Group A

Report of Working Group A

Working Group A held 17 meetings between 4th March and 7th August 1985.

In accordance with the terms of reference for this Working Group, as indicated in document CD/CW/WP.98 of 27 February 1985, the Group dealt with the following broad topics:

1. Permitted activities regarding various categories of chemicals.
2. Laboratories, small-scale production facilities, industrial production facilities, their role in the permitted activities.
3. Definitions to be included in the Convention.
4. Principles and methods of declarations and verification with regard to the activities of the small-scale production facility.
5. Principles and methods of declarations and verification with regard to the activities of the industrial production facilities.

The consideration of the most important aspects of these five issues was scheduled on the basis of an adopted programme of work. The negotiations were based on document CD/539 and other relevant documents. To structure the work the Chairman introduced in addition a number of basic working papers: CD/CW/WP.99; WP.103, WP.104, WP.105, and papers on the régimes for various categories of chemicals, including the definitions of chemical weapons, key components of binary and/or multicomponent weapons and key precursors.

The Chairman also held a number of consultations, including with technical experts, which proved very useful for creating the basis for the understandings reached at the end of the session.

The issue of Scope, though appearing in the title of the terms of reference, was not among the five main topics and therefore was not given particular attention.

The group succeeded in significantly improving the definition on chemical weapons, agreeing on all elements which constitute toxic chemicals (reference: Article II, 1 (i)). Agreement was also reached in regard to the contents of the definition of "Permitted Activities", though differences remain as to the title of that paragraph (reference: Article II, 3).

The Group failed to agree completely on one of the fundamental issues - the approach for identifying the various categories of chemicals. Nevertheless, due to the in-depth exchange of views on this subject and other relevant issues, it was possible to enlarge the general idea on the restrictions, the place of production and the monitoring procedures in regard to the permitted activities. This new development is reflected in Article VI, paragraphs 1, 2 and 3, where an understanding about the contents and the structure of régimes in regard to the super-toxic lethal chemicals and key components of binary and/or multicomponent chemical systems for chemical weapons is contained.

In accordance with the mandate for the Ad Hoc Committee on Chemical Weapons (CD/551) the texts agreed upon are of a preliminary nature and not binding any delegation at this stage of the negotiations.

The contribution of the Working Group is reflected in the attached two draft articles:

-Article II: Definitions and Criteria;

-Article VI: Permitted Activities.

Article IIDEFINITIONS AND CRITERIA

For the purposes of this Convention:

1. */ The term "chemical weapons" shall apply to the following, together or separately: **/

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, except such chemicals intended for permitted purposes 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;

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.]

*/ 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.

**/ 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.

***/ One delegation suggests that the term "permitted purposes" should be substituted, where it occurs throughout the Convention, with the term "purposes not prohibited by the Convention".

- [State 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/m³ (by inhalation) when measured by an agreed method^{*/} set forth in ...

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/m³ (by inhalation) and less than or equal to 10 mg/kg (subcutaneous administration) or 20,000 mg-min/m³ (by inhalation) when measured by an agreed method set forth in ...

[c) "other harmful chemicals", 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/m³ (by inhalation).]

^{*/} 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

3. [Permitted purposes] [Purposes not prohibited by the Convention]
[Non-hostile purposes] 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; ^{*/}

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.] ^{**/}

^{*/} 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.

^{**/} One delegation considers that this particular characteristic has

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.

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 B), or the production for chemical weapons of any key precursors;] or

b) the filling of chemical weapons.

Article VIPERMITTED ACTIVITIES^{*/}

Each State Party has the right, in accordance with the provisions of this Convention, to develop,^{**/} produce, otherwise acquire, retain, transfer and use toxic chemicals and their precursors for permitted purposes, in types and quantities consistent with such purposes, subject to the following:

1. Each State Party shall, within 30 days of the entry into force of the Convention for itself, declare the possession for permitted purposes of chemicals, posing a special danger from the viewpoint of their possible diversion to chemical weapons purposes, within its territory and anywhere under its jurisdiction or control, indicating the scientific names, [the structural formula] and the quantities for each individual category:

- (a) super-toxic lethal chemicals;
- (b) key components of binary and/or multicomponent chemical systems for chemical weapons, listed in ...
- (c) other lethal chemicals, listed in ...;
- (d) harmful chemicals, listed in ...;
- (e) key precursors, listed in ...;
- (f) other chemicals posing special risk, listed in

2. Each State Party shall declare annually, for its territory, anywhere under its jurisdiction or control^{***/}, the quantity^{****/} of:

^{*/} One delegation suggests that the title be changed to read "Activities not prohibited by the Convention", and the term "permitted purposes" be changed to read "purposes not prohibited by the Convention".

^{**/} One delegation considers that the language in regard to this term should be further elaborated.

^{***/} It was understood that this formulation covers the operations of transnational corporations.

^{****/} The level of quantity to be declared and the question of the necessity to declare the location of facilities in regard to paragraphs 1 and

(a) super-toxic lethal chemicals, chemicals with use as key components of binary and/or multicomponent chemical systems for chemical weapons, other lethal chemicals and other harmful chemicals, [key precursors], produced, otherwise acquired, possessed or retained from chemical weapon stocks for protective purposes, indicating the scientific chemical names [and structural formula] of such chemicals.

(b) super-toxic lethal chemicals, as well as chemicals with use as key components of binary and/or multicomponent chemical systems for chemical weapons, other lethal chemicals, other harmful chemicals key precursors and other chemicals posing special risk, listed in ..., produced retained, otherwise acquired or possessed for industrial, agricultural, research, medical and/or other peaceful purposes, indicating the scientific chemical names [structural formula] of such chemicals.

3. Each State Party undertakes to apply and accept, in regard to super-toxic lethal chemicals and key components of binary and/or multicomponent chemical systems for chemical weapons, the following measures:

A. Super-toxic lethal chemicals with use as chemical weapons

(i) The restrictions and requirements of this paragraph shall be applicable to the super-toxic lethal chemicals with use as chemical weapons [and other toxic chemicals, as listed in ... Chemicals can be added to or removed from this list according to procedure.]^{*/}

(ii) Each State Party shall prohibit all production and use of such chemicals, except for production and use for protective purposes [or in laboratory quantities for research or medical purposes].

(iii) Each State Party may retain, produce, acquire, transfer to another State Party or use such chemicals for protective, [research and medical] purposes, subject to the following:

- the retention, production, acquisition and use of such chemicals for protective purposes shall be strictly limited to those amounts which can be justified for such purposes.

^{*/} The ways for chemicals to be included in or excluded from this

- the amount of super-toxic lethal chemicals possessed by a Party for protective purposes or acquired for protective purposes by any Party in any calendar year shall be included in the one tonne aggregate limit [for all permitted purposes] for the following chemicals:

- super-toxic lethal chemicals
- key component of binary and/or multicomponent chemical systems for chemical weapons^{*/}
- key precursors^{*/}

- Each State Party which produces such chemicals for protective purposes shall carry out the production at a single small-scale production facility,^{**/} the capacity of which shall not exceed ... metric tonne per year. The location and a detailed description of the facility shall be provided to the Consultative Committee no less than 30 days before operations commence, and the facility shall be subject to monitoring by the National Authority and the Consultative Committee through annual submission of data, on-site instruments, on-site national inspections and systematic international on-site inspections. Further information on the facility, its monitoring and operations is provided in ...

[- Any establishment possessing, producing or using laboratory quantities of such chemicals shall be approved by the State Party. The establishments will be monitored by the National Authority and by the Consultative Committee through annual data reporting.]

- Each State Party may transfer such chemicals only to another State Party for protective purposes, subject to the quantity limitations specified in paragraph 3 A (iii) above, [or for research or medical purposes]. 30 days prior to any transfer or reception greater than ... the transferring Party shall report the transfer or reception to the Consultative Committee, as specified in Items transferred may not be retransferred to another State.

^{*/} The amounts of key component of binary and/or multicomponent chemical systems for chemical weapons and key precursors will be measured in accordance with the amount of final super-toxic lethal chemicals produced by these compounds.

^{**/} This does not prejudice the position of one group of delegations about the functions of the single small-scale production facility.

B. Super-toxic lethal chemicals with no use as chemical weapons*/

(i) The restrictions and requirements of this paragraph shall be applicable to the super-toxic lethal chemicals with no use as chemical weapons. **/

- The retention, production, acquisition and use of these chemicals shall be strictly limited to those amounts which can be justified for such purposes;

- The amount of super-toxic lethal chemicals possessed by a Party for protective purposes or acquired for protective purposes by any Party in any calendar year shall be included in the one tonne aggregate limit [for all permitted purposes] for the following chemicals:

- super-toxic lethal chemicals
- key component of binary and/or multicomponent chemical systems for chemical weapons ***/
- key precursors ***/

- Each State Party which produces these chemicals shall carry the production at [a single small-scale production facility] [facilities approved by the State Party in quantities consistent with such purposes] the capacity of which shall not exceed ... metric tonne per year.

- The location and a detailed description of the facility [facilities] shall be provided to the Consultative Committee not later than 30 days before operations commence, and the facility [facilities] shall be subject to monitoring by the National Authority and the Consultative Committee through annual submission of data, [on-site instruments,] on-site national inspections and systematic international on-site inspections. Further information on the facility, [facilities] its monitoring and operations is provided in ...

*/ One delegation considers that the title of this paragraph and the concept contained below is subject to further clarification.

**/ The ways for chemicals to be included in or excluded from this category remains to be elaborated.

***/ The amounts of key component of binary and/or multicomponent chemical systems for chemical weapons and key precursors will be measured in accordance with the amount of final super-toxic lethal chemicals produced by these compounds

- Each State Party may transfer these chemicals only to another Party in quantities consistent with permitted purposes [subject to the limitations specified in ...]. [These chemicals may be transferred to a State not Party to the Convention for research and medical purposes.] 30 days prior to any transfer or reception greater than ... the transferring Party shall report the transfer or reception to the Consultative Committee, as specified in... Items transferred may not be retransferred to another State.

C. Chemicals with use as key components of binary and/or multicomponent chemical systems for chemical weapons

(i) The restrictions and requirements of this paragraph shall be applicable to chemicals with use as key components of binary and/or multicomponent systems for chemical weapons, listed in ... Chemicals may be added to this list according to ... procedure.

(ii) Each State Party shall prohibit all production and use of such chemicals except [for production of super-toxic lethal chemicals as end products for use for protective purposes] [research and medical purposes].

(iii) Each State Party may retain, produce or use such chemicals [for protective] [research and medical] purposes subject to the following:

- At no time shall the aggregate amount of such (in terms of the weight of end products) chemicals possessed, produced or retained for protective purposes [together with chemicals for all permitted purposes] shall, by all means, by any Party in any calendar year, exceed one metric tonne as a general quantity limitation [laboratory quantities].

- Each State Party which produces such chemicals for protective purposes shall carry out the production at a single small-scale production facility, the capacity of which shall not exceed ... metric tonne per year. The location and a detailed description of the facility shall be provided to the Consultative Committee no less than 30 days before operations commence, and the facility

shall be subject to monitoring by the National Authority and the Consultative Committee through annual submission of data, on-site instruments, on-site national inspections and systematic international on-site inspections. Further information on the facility and its operations is provided in ...

[Any establishment possessing, producing or using laboratory quantities of such chemicals shall be approved by the State Party. The establishments will be monitored by the National Authority and by the Consultative Committee through annual data reporting.]

*/ - Each State Party undertakes not to transfer such chemicals, directly or indirectly, to anyone.

*/ - Each State Party may transfer such chemicals only to another Party for protective purposes, subject to the quantity limitations specified in paragraph 3 A (iii) above, [or for research or medical purposes]. 30 days prior to any transfer or reception greater than ... the transferring Party shall report the transfer to the Consultative Committee, as specified in ... Items transferred may not be retransferred to another State.

4. Other lethal chemicals with use as chemical weapons and with no use as chemical weapons.
(to be elaborated)
5. Other harmful chemicals
(to be elaborated)
6. Key precursors
(to be elaborated)
7. Other chemicals posing special risk
(to be elaborated)
8. Precursors
(to be elaborated) ^{**/}

*/ These two texts represent two different alternatives in regard to the transfer régime.

Ad Hoc Committee on Chemical Weapons

Working Group C

Report of Working Group C

1. Working Group C held 14 meetings from 6 March to 9 August 1985. In addition the Chairman held five open-ended consultations with delegations.

2. In accordance with the terms of reference for Working Group C (CD/CW/WP.98) it attempted to draft the following articles:

Article VII - National Implementation Measures

Article VIII - Consultative Committee

Article IX - Consultation, Cooperation and
Fact-finding

Working Group C used document CD/CW/WP.106, Alternative I, tabled by the Chairman on 12 April 1985, as a technical basis for the drafting exercise.

3. Working Group C was able to agree on texts of drafts of Article VII and Article VIII, the texts of which are attached to this report. In the context of Article VII it was suggested that guidelines for the functioning of the national authority for the implementation of the Convention be elaborated. Working Group C was only able to agree on paragraphs 1 and 2 of Article IX. Further work is required to bring Article IX to the same stage of development as Article VII and Article VIII.

4. In accordance with the mandate for the Ad Hoc Committee on Chemical Weapons (CD/551) the texts agreed upon are of a preliminary nature and not binding any delegation at this stage of the negotiations.

Article VIINational 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.^{*/}

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 ^{**/}

^{*/} It was suggested that guidelines for the functioning of the national authority for the implementation of the Convention be elaborated.

^{**/} It was suggested that no reference to National Technical Means is needed in a future Convention.

Article VIII

Consultative Committee

1. The State Parties to this Convention shall establish a Consultative Committee [upon] [within 30 days after the] entry into force of this Convention. Each State Party to this Convention shall be entitled to appoint a representative to the Consultative Committee.
2. The first session of the Consultative Committee shall be convened by the Depositary at [venue] not later than 30 days after the entry into force of the Convention.
3. The Consultative Committee shall [oversee] [review] the implementation of the Convention, consider any questions or matters relevant to the Convention or relating to the powers and functions of any organs established under the Convention, foster international consultations and co-operation among States Parties to the Convention, and promote the verification of compliance with this Convention.
4. For the purposes of this Convention the Consultative Committee shall be responsible for:^{*/}
 - (a) establishing, and revising as necessary, procedures for exchange of information, for declarations and for technical matters related to the implementation of this Convention;
 - (b) receiving, keeping [and making available to States Parties] declarations, plans and notifications presented by States Parties in accordance with Articles ...;

^{*/} The enumeration of responsibilities listed in paragraph 3 was not considered to be exhausted.

- (c) carrying out all activities relating to the execution of measures of verification as specified in this Convention; further specifying procedures for the conduct of systematic international on-site inspection; overseeing and carrying out systematic international on-site verification in accordance with Articles . . .; receiving and considering requests for fact-finding procedures and to conduct such procedures in accordance with Article . . .;
- (d) cooperating with the national authorities of States Parties in the implementation of the Convention;
- (e) facilitating consultations and cooperation among States Parties at their request by means of rendering services to them;
- (f) reviewing scientific and technical developments which could affect the operation of this Convention;
- (g) encouraging international scientific and technical co-operation in the chemical field for peaceful purposes.

5. The Consultative Committee shall establish an Executive Council [within 45 days after entry into force of the Convention]. The Council shall be composed of representatives of [15] States Parties on the basis of an appropriate geographic [and political] balance. [In addition, those permanent members of the Security Council of the United Nations who are Parties to the Convention should be represented.] The [elected] members of the Executive Council shall serve for [two][three] year period, with [five] of the members replaced or reelected each year.

6. [The Executive Council shall have delegated authority to carry out the functions of the Consultative Committee when it is not in session.]^{*/} The Executive Council shall report to the Consultative Committee about the exercise of the functions delegated to it.

7. The Consultative Committee shall meet in regular session annually; it shall hold extraordinary sessions at the request of the majority of States Parties to this Convention.

^{*/} The division of responsibility between the Consultative Committee and the Executive Council and the detailed functions of the latter remain to be

8. Any decision of substance of the Consultative Committee and the Executive Council requires a [two-third majority] [consensus], any other decision requires a simple majority.^{*/} [All decisions in the Consultative Committee and in the Executive Council shall be taken by a two-third majority.]

9. The States Parties to this Convention shall establish a Technical Secretariat that shall provide administrative support to the Consultative Committee and the Executive Council and render technical assistance to States Parties and the Executive Council.

10. Further functions and the organization of the Consultative Committee and its subsidiary organs are specified in Annex ...

^{*/} An opinion was expressed that the concept of consensus encompasses that in case the Executive Council is unable to reach a consensus on a given subject matter, all views expressed should be made known to the States Parties of the Convention.

Article IX

Consultation, Co-operation and Fact-Finding

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.

The further contents of Article IX remain to be elaborated.

CD/CW/WP.127 Draft Report of the Ad Hoc
Committee on Chemical Weapons

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