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CONFERENCE ON DISARMAMENT

CHEMICAL WEAPONS

WORKING PAPERS OF THE

Ad Hoc COMMITTEE ON CHEMICAL WEAPONS 1988

CD / CW / WP

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ARMS CONTROL AND DISARMAMENT DIVISION OF

THE DEPARTMENT OF EXTERNAL AFFAIRS

OTTAWA, CANADA

FEBRUARY 1989

CONFERENCE ON DISARMAMENT

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PREFACE

CD/CW/WP

This volume covers working papers tabled in the Ad Hoc Committee on Chemical Weapons (AHCCW) during 1988. it is compiled to facilitate discussions and research on the issue of Chemical Weapons.

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

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

Chemical Weapons Working Papers Submitted to AHCCW of the CD 1988 Chronological Index

Serial	Reference	Country	Description	Date
			1988	
384.1	CD/CW/ WP.182 Stocks	Mongolia	Order of Destruction of Chemical Weapons	15.1.88
385	CD/791	FRG	Verification of Non-Production: The Case for Ad Hoc Checks (also issued as CD/CW/WP.183)	25.1.88
386	CD/792	FRG	Super-toxic Lethal Chemicals (STLCs) (also issued as CD/CW/WP.184)	25.1.88
386.1	CD/CW/ WP.185	AHCCW	Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its Work During the Period 12-19 January 1988 (Not Reproduced)	27.1.88
390	CD/802	USA	Thresholds for Monitoring Chemical Activities Not Prohibited by a Convention (also issued as CD/CW/WP. 186)	5.2.88

Serial	Reference	Country	Description	Date
391.1	CD/CW/ WP.187	Chairman AHCCW	Working Paper Presented by the Chairman: Outline for the Organization and Programme of Work of the Ad Hoc Committee on Chemical Weapons for the First Part of the 1988 Session (Not Reproduced)	12.2.88
393	CD/808	USSR	Letter Dated 18 February 1988 from the Representative of the Union of Soviet Socialist Republics, Transmitting a Document Entitled "Memorandum on Multilateral Data Exchange in Connection with the Elaboration of a Convention on the Complete and General Prohibition and Destruction of Chemical Weapons (Proposed by the USSR)" (also issued as CD/CW/WP.188)	19.2.88
394	CD/809	Argentina	Assistance for Protection Against Chemical Weapons (also issued as CD/CW/WP.189)	26.2.88

Serial	Reference	Country	Description	Date
396.1	CD/CW/ WP.190	Italy	Some Remarks on the Toxicity Index (LD50) Chosen as Parameter to Identify Chemicals not Listed in Schedules [1], [2] or [3]	8.3.88
393.2	CD/CW/ WP.191	FRG	Some Aspects of a Challenge Inspection Regime	11.3.88
396.3	CD/CW/ WP.192	FRG	Non-Production: Annex to Article VI [1]	11.3.88
393.4	CD/CW/ WP.193	Austria	Article VI	18.3.88
393.5	CD/CW/ WP.194	GDR	Provisions to Ensure the Confidentiality of Information Provided in Connection with Verification Activities	18.3.88
393.6	CD/CW/ WP.195	GDR	Article VI: Regime for Chemicals in Schedule [1]	22.3.88

Serial	Reference	Country	Description	Date
397	CD/821	USSR	Letter Dated 28 March 1988 from the Representative of the Union of Soviet Socialist Republics to the President of the Conference on Disarmament Transmitting a Text of the Statement of the Ministry of Foreign Affairs of the USSR on 16 March 1988 (also issued as CD/CW/WP.196)	29.3.88
398	CD/822	FRG/ Italy	The Order of Destruction of Chemical Weapons (also issued as CD/CW/WP.197)	29.3.88
399.1	CD/CW/ WP.198	GDR	On-Site Inspection on Challenge - Guidelines on International Inspectorate	5.4.88
399.2	CD/CW WP.199	France	Security Stocks: Proposed Amendments	7.4.88
402.1	CD/CW WP.200	AHCCW	Draft Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	15.4.88

Serial	Reference	Country	Description	Date
403	CD/830	USA	Letter Dated 18 April 1988 from the Representative of the United States of America Addressed to the President of the Conference on Disarmament Transmitting the Text of a Document Entitled 'Information Presented to the Visiting Soviet Delegation at the Tooele Army Depot, 18-21 November 1987' (also issued as CD/CW/WP.201)	19.4.88
403.1	CD/CW/ WP.202	AHCCW	Programme of Work for the Second Part of the 1988 Session (Not Reproduced)	8.7.88
403.2	CD/CW/ WP.203	Netherlands	Provision of Data Relevant to the Chemical Weapons Convention	19.7.88
403.3	CD/CW/ WP.204	FRG	Verification of Non-Production of Chemical Weapons: 'Sample Now, Analyse Later' (SNAL) System for the Retrospective Verification of Non-Production	19.7.88

Serial	Reference	Country	Description	Date
407	CD/849	USA	Destruction of Chemical Weapons Production Facilities (also issued as CD/CW/WP.205)	28.7.88
408.1	CD/CW/ WP.206	UK	Provision of Data Relevant to the Chemical Weapons Convention	10.8.88
410.1	CD/CW/ WP.207	FRG	Provision of Data Relevant to the Chemical Weapons Convention	16.8.88
411.1	CD/CW/ WP.208	GDR	On-Site Inspection on Challenge: Outline of a Manual for the Activities of Inspectors Conducting Inspections Under Article IX of the Convention	26.8.88
412.1	CD/CW/ WP.209	AHCCW	Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	1.9.88
414	CD/869	FRG	Verification of Non-Production of Chemical Weapons: Ad Hoc Checks (also issued as CD/CW/WP. 210)	6.9.88
414.1	CD/CW/ WP.211	USSR	Assessment of the French Proposal on Security Stocks	7.9.88

Serial	Reference	Country	Description	Date
415	CD/871	GDR	Chemical Weapons Convention: Provision of Data Relevant to the Chemical Weapons Convention (also issued as CD/CW/WP. 212)	12.9.88
416.1	CD/CW/ WP.213	Chairman AHCCW	Trial Inspections: Working Paper by the Chairman of the Open-Ended Consultations	12.9.88

The following documents of the AHCCW, which do not contain any substantive material or are draft reports, are not reproduced but are listed here for identification purposes:

386.1	CD/CW/ WP.185	AHCCW	Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on Its Work During the Period 12-19 January 1988 (Not Reproduced)	27.1.88
391.1	CD/CW WP.187	Chairman AHCCW	Working Paper Presented by the Chairman: Outline for the Organization and Programme of Work of the Ad Hoc Committee on Chemical Weapons for the First Part of the 1988 Session (Not Reproduced)	12.2.88
402.1	CD/CW/ WP.200	AHCCW	Draft Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	15.4.88

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403.1	CD/CW/ WP.202	AHCCW	Programme of Work for the Second Part of the 1988 Session (Not Reproduced)	8.7.88
412.1	CD/CW/ WP.209	AHCCW	Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament (Not Reproduced)	1.9.88

CD/CW/WP.182
15 January 1988

ENGLISH
Original: RUSSIAN

CONFERENCE ON DISARMAMENT

Ad hoc Committee on
Chemical Weapons

MONGOLIA

Working Paper

The order of destruction of chemical weapons stocks

The destruction of chemical weapons is one of the main objectives of the multilateral Convention on the complete and effective prohibition of the development, production and stockpiling of chemical weapons and on their destruction.

Accordingly, this issue is being given priority attention in the negotiations.

In its working paper CD/CW/WP.162 of 7 April 1987, the delegation of Mongolia submitted proposals aimed at finding a mutually acceptable solution. Taking into account the progress achieved in this regard in the negotiations, it now submits for discussion a further elaboration of its proposals.

In the efforts to reach the goal of the final elimination of chemical weapons provision must be made for the complete destruction of stocks and the prohibition of the development, production and stockpiling of such weapons. At the same time, a principle as important as that of undiminished security for all States must be strictly observed during the entire period of destruction.

For that reason it is very important to devise principles and an order for the destruction of chemical weapons that will simultaneously meet all these requirements.

Many important issues related to the destruction of the stockpiles of these weapons have already been agreed upon in the negotiations. The Ad hoc Committee on Chemical Weapons is to complete in the near future the work on the order of destruction of CW stocks. Certain prerequisites have already been created for that. It should be especially emphasized that there is general agreement, which is reflected in the draft Convention, regarding the destruction of all CW stocks by the end of the tenth year after the Convention enters into force and, as regards the fulfilment of that objective, it has

been considered appropriate to divide all CW stocks into categories and to compare chemicals within categories by weight.

Taking into account the discussions at the negotiations, it seems possible to concretize the proposal by establishing the following categories of CW stocks:

Category I - chemical weapons based on Schedule [I] chemicals;

Category II - chemical weapons based on any other chemicals;

Category III - unfilled munitions and devices and equipment, specifically designed for employment in connection with the use of chemical weapons.

Such a grouping and the possibility of comparing chemicals by weight would give States parties to the Convention which possess chemical weapons a certain freedom with respect to the order of destruction of the various types of these weapons.

Security during the period of destruction of stocks should be based on, above all, the immediate cessation of CW production in compliance with the basic obligations under the Convention, the declaration by States parties possessing chemical weapons not later than 30 days after the Convention enters into force for them of the size and location of all CW stocks, the verification of the credibility of such declarations, and the placing of the stocks under systematic international control precluding any covert activity in their regard. That would create complete transparency regarding the stocks and confidence concerning the prevention of any action detrimental to the security of any of the States parties to the Convention.

Moreover, such completeness of information on CW stocks right from the Convention's entry into force would make it possible to work out and co-ordinate plans for the destruction of chemical weapons that took into account the principle of levelling-out, whereby, without prejudice to the principle of undiminished security for all States at all stages of destruction, States possessing chemical weapons would be left after the Convention had been in force for an agreed length of time with approximately equal quantities of such weapons, to be destroyed by the tenth year of operation of the Convention. These timeframes and the amounts of the remaining stocks are to be agreed upon in the course of the negotiations.

The declaration of stocks by the States participating in the negotiations at this stage would considerably further the solution of the problem of the order of destruction of CW stocks.

FRG	CD/CW/WP.183	Verification of Non-Production: The Case for Ad Hoc Checks	Also issued as CD/791 25 Jan. 88

NOT REPRODUCED
(see WP volume)

FRG	CD/CW/WP.184	Super-toxic Lethal Chemicals (STLCs)	Also issued as CD/792 25 Jan. 88

NOT REPRODUCED
(See WP volume)

CD/CW/WP.185

Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its Work During the Period 12-19 January 1988

27.1.88

NOT REPRODUCED

USA	CD/CW/WP.186	Thresholds for Monitoring Chemical Activities Not Prohited by a Convention	Also issued as CD/802 5 Feb. 88

NOT REPRODUCED
(See WP volume)

CD/CW WP.187

Working Paper presented by the Chairman: Outline for the Organization and Programme of Work of the Ad Hoc Committee on Chemical Weapons for the First Part of the 1988 Session

12.2.88

NOT REPRODUCED

USSR	CD/CW/WP.188	Letter Dated 28 March 1988 from the Representative of the Union of Soviet Socialist Republics Transmitting a Document Entitled 'Memorandum on Multilateral Data Exchange in Connection with the Elaboration of a Convention on the Complete and General Prohibition and Destruction of Chemical Weapons (Proposal by the USSR)'	Also issued as CD/808 19 Feb. 88

NOT REPRODUCED
(See WP volume)

Argentina CD/CW/WP.189	Assistance for Protection Against Chemical Weapons	Also issued as CD/809 26 Feb. 88

CONFERENCE ON DISARMAMENT

CD/CW/WP.190
8 March 1988

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

ITALY

CONVENTION ON CHEMICAL WEAPONS

Some remarks on the toxicity index (LD 50) chosen as parameter to identify chemicals not listed in schedules (1), (2) or (3)

1. The latest report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament (CD/795) proposes to identify and subject to international monitoring commercial production of "Toxic chemicals not listed in schedules (1), (2) or (3) that might be relevant to the convention". The report contains a proposal for an annex (4) to monitor such production. This group of substances is to be characterized first and foremost by a toxicity index of LD 50 = 0.5 mg/kg. Other characterizing elements suggested in document CD/795 are the quantity of any chemical with an LD 50 equal to or less than 0.5 mg/kg actually produced in one year (three "thresholds" of 10, 100 and 1,000 kg per annum have been suggested) and the annual production capacity for any such chemical (a threshold of 1,000 kg/year is suggested). The element of facilities that are "capable" of producing specific chemicals but have not previously done so is not considered in this paper.

2. This paper examines the validity of the relationship between acute toxicity of a compound and the need for the compound itself to be subject to the measures contained in the convention.

In particular, three issues are examined:

(1) How many compounds can be roughly considered to belong to the so-called schedule 4?

(2) What degree of reliability can be given to the toxicity index of LD 50 = 0.5 mg/kg.?

(3) What impact on industry might result from having the compounds of schedule 4 subjected to the measures contained in the convention?

Issue No. 1: There is an extremely high number of compounds having a schedule 4 level of toxicity.

This statement is not astonishing if one thinks that some 5 million compounds have been registered by the "Chemical Abstracts" service and that toxicity is a characteristic property of any such compound, on the same level as its melting point or heat of combustion. In order to obtain a quantitative, even if only indicative, answer, "the registry of toxic effects of chemical substances", (RTECS), which records some 80,000 compounds, was consulted.

This data bank reveals that:

- 850 substances have an LD 50 $\leq$ 0.5 mg/kg;
- 596 substances have an LD 50 between 0.5 and 1 mg/kg.

The tendency of modern research to expand the characterization of chemical substances to include their toxicologic assessment, will gradually increase also the number of compounds that could be listed under schedule 4.

Following the indications derived from the RTECS data bank, 1 per cent of the compounds may be assumed to have a toxicity degree which is representative of the products being investigated.

Given the extremely high number of these toxic chemicals, the selection of a reasonably restricted number to be subjected to the measures contained in the convention requires a well-informed choice of parameters, which the document CD/795 identifies only as "production" and "production capacity" of a facility.

However, a 10 kg per annum output is possible for any fairly well equipped research laboratory: consequently, any plan seeking to keep production under control for output levels of this order of magnitude, would be basically unfeasible.

Issue No. 2: The toxicity values reported in the literature are the result of a variety of experimental measurements and sometimes produce a range of values for a single compound and do not provide a basis for comparison of compounds tested by different means.

For instance, it could not be excluded to find different LD 50 values for a toxic substance even using the same type of laboratory animal and the same route of administration. Such an indeterminacy in values is in sharp contrast with the specificity of the toxicity limit of the chemicals involved.

The range of the published values is, on the other hand, consistent with the other major shortcoming of data, which is the absence of information on the toxicologic behaviour of many chemical compounds, including those which are commercially produced. For instance, as pointed out in the report of the "National Research Council", "Toxicity testing: strategies and priorities" (1984), toxicity data are not available for 78 per cent of the chemical products that are marketed at the rate of 1 million lbs per annum (table I).

Table I

Hazard not accessible for most of select 65,725 chemicals

	Size of category	Per cent of category				
		Complete assessment possible	Partial assessment possible	Minimal toxicity data available	Below minimal toxicity data available	No toxicity data available
Pesticides and inert ingredients of formulations	3 350	10 %	24 %	2 %	26 %	38 %
Cosmetic ingredients	3 410	2	14	10	18	56
Drugs and inert vehicles used in formulations	1 815	16	18	3	36	26
Food additives	8 627	6	14	1	34	46
Chemicals in commerce: $\geq$ 1 million lb per year	12 880	0	11	11	0	78
Chemicals in commerce: < 1 million lb per year	13 911	0	12	12	0	76
Chemicals in commerce: production unknown or inaccessible	21 762	0	10	8	0	82

Although a standardized method for the determination of toxicity has been recommended (CD/CW/WP.30), many different methods have been used for the values reported in the scientific literature. Great doubts arise in listing a compound under the so-called schedule 4, because of the marked differences among the known LD 50 values.

An example of this latter element of uncertainty is represented by the "Aldicarb" toxicity data shown in Table II

Table II

Route	Animal type	Toxicity index (LD 50)
Oral	Rat	0.65 mg/kg
Skin	Rat	2.50 mg/kg
Subcutaneous	Rat	0.66 mg/kg
Unreported	Rat	0.93 mg/kg
Oral	Mouse	0.30 mg/kg
Skin	Rabbit	1.40 mg/kg
Skin	Guinea pig	2.40 mg/kg
Oral	Chicken	8.00 mg/kg
Oral	Duck	3.40 mg/kg

According to the oral toxicity data for mice (LD 50 = 0.3 mg/kg) "Aldicarb" is to be listed with the STLCs; all the other mesures, greater than 0.5 mg/kg, instead are in contrast with these indications.

Issue No. 3: The compilation of a schedule 4 to be subjected to a régime, similar perhaps to that provided for key-precursors of chemical weapons, may cause severe impairment to the chemical industry's R & D activities.

Indeed, it is well known that a certain number of highly toxic compounds, such as curare derivatives, have found useful applications in the production of drugs. On the other hand, the intrinsic toxicity of chemical substances has for some time now been a matter of great concern for the authorities that are responsible for the production of health and of the environment. For this reason some national agencies like the "Environmental Protection Agency" and the "Food and Drug Administration", continue to define strict regulations on the production, processing and distribution of chemical compounds.

The prospective inclusion of a large or inappropriate group of STLC's in the verification system of the convention is bound to have a deterent effect on industrial R & D activities because of the danger of restrictions on intellectual property. Ways must be found to protect such a property while at the same time permitting the monitoring of relevant chemicals.

Any company wishing to carry out a research programme on the utilization of a schedule 4 compound could be compelled to accept, a priori, the following conditions:

- to disclose confidential data during the critical development phase, for the construction of a pilot plant to produce some tens of kg of the product concerned;
- having its research facilities subjected to international inspections with the possible risk of a leakage of confidential data;
- having its public image damaged in that it could be mistaken for a producer of chemical weapons.

3. These remarks stress the limits and consequences that might ensue from having a large number of STLC's subject to international monitoring. The relationship between the high toxicity of a compound, the amount actually produced and the amount that could potentially be produced on the one hand, and the use of a compound as chemical weapon on the other, appears to be too weak to be considered as a critical factor in making this decision.

Two additional methods are suggesed here:

(a) A first approach, whereby a toxic substance is to be considered as a potential weapon (and thus subjected to control) only where there is reliable information reporting it to be used experimentally in activities of concern to the convention;

(b) A second approach, whereby a toxic substance can be classified as a chemical weapon (agent or key-precursor) only if its global technical and economic characteristics realistically match the "standard profile" (to be defined) of the chemical weapons known to date.

Among the reference parameters, the following can be mentioned:

Economic parameters:

- low production costs on industrial scale;
- possibility of production using raw materials available on the domestic market;
- ease of synthesis;

Technical parameters:

- militarily significant quantities;
- the physico-chemical characteristics of the product, which can be derived from the compound involved, which enable it to efficiently perform as an agent. As examples the following might be considered: physical state in normal conditions, vapour density, vapour pressure, volatility, diffusion coefficient, heat and detonation stability, stability in time, flash point, resistance to weathering agents, rate of hydrolysis, limited corrosive power on containers, portal of entry into the human body.

The "standard profile" should be worked out on the basis of an Ad Hoc study.

CONFERENCE ON DISARMAMENT

CD/CW/WP.191
11 March 1988

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

Working Paper

Some Aspects of a Challenge Inspection Régime

Despite the laudible progress achieved on the question of on-site inspections on challenge during the 1987 CD-session (cf. Appendix II, pages 113-116 of CD/795 of 2 February 1988) a number of questions need to be resolved.

In the following chapters some of those questions on which additional work needs to be done are identified and discussed. Furthermore some thoughts are offered on yet unresolved problems in order to stimulate the ongoing negotiations on this issue.

I. Conduct of a Challenge Inspection

There seems to be agreement on the following principles:

- The requested State should have the right and be under the obligation to demonstrate that it remains in full compliance with the CW Convention.
- As a rule, the inspection should be conducted as requested in the least intrusive manner possible.
- Sensitive equipment or information should be protected to the extent possible.
- The requesting and the requested State may agree on alternative arrangements to demonstrate compliance, i.e. on measures which are short of comprehensive access to the site/installation in question.

The questions which required further consideration are basically centred on the problem of whether non-comprehensive access (alternative measures, managed access) may in some cases suffice to prove compliance:

1. Definition of alternative measures

(a) So far there is no common understanding of what exactly alternative measures could be. Furthermore, it is not clear how alternative measures would differ from concepts like "managed conduct" or "managed access".

(b) Within the scope of the requested inspection, there should be only the distinction between comprehensive - if need be, managed - and non-comprehensive access. Information from sources beyond the location primarily concerned should not be excluded.

2. Arrangements on alternative measures

(a) A number of delegations have indicated that if no agreement on alternative measures can be reached within a certain - short - time the requesting State must be granted comprehensive access. However, the exact procedures and time schedules for dealing with possible alternative measures need to be elaborated:

(b) - Possible arrangements on alternative measures need to be agreed upon as expeditiously as possible. A dialogue should be initiated by the challenged State as soon as possible after having been notified of the inspection request. This dialogue should take place between the challenged and the challenging State, the International Inspectorate upon request of the challenging State taking part in it. The preparations for carrying out the inspection as originally requested remain unaffected during the time. If no alternative measures can be agreed upon within a certain time (48 hours), a comprehensive inspection takes place.

- The inspection should be completed as quickly as possible. A deadline of not more than (two) days from the beginning of an individual inspection should be set for its completion.
- The challenge inspections are only to be carried out by inspectors of the International Inspectorate, not belonging to either State, who were designated to and accepted by the particular State in advance (cf. para. I, 1-3 of the Guidelines on the International Inspectorate; CD/795 Addendum page 88). However, it also may be envisaged (necessarily in the convention that the requesting State should be allowed to send an observer (expenses for this to be covered by the requesting State). The question of the role of the observer needs to be further examined.

3. Protection of sensitive installations

Some States have demanded that sensitive military installations as well as scientific, commercial, technical or other secrets must be protected. The need to protect sensitive military or other installations or information is undeniable.

In a multilateral context lists of installations which would be exempted from challenge inspections could undermine the challenge inspection régime. It is also difficult to envisage how such lists could be multilaterally agreed upon.

The challenged State should have the right to examine the inspection equipment without delaying the progress of the inspection.

In addition it might prove to be necessary to elaborate inspections procedures to protect sensitive information during an inspection. These procedures must be consistent with the concept of comprehensive access.

II. Evaluation of an inspection

There seems to be agreement that

- inspectors should write a report, which would have to be strictly factual and would only contain directly relevant information, and tha there is room for different views in such a report,
- copies of that report should within a certain time-limit (one week?) be submitted to both the requesting and the requested State as well a to the Executive Council,
- the requesting State should state its position on the report and the Executive Council will assess the situation arising out of the position of the requesting State.

III. Sanctions in the case of non-compliance with the convention

(a) CD/715 mentions "the withdrawal of rights and privileges from the party under the Convention". It does so without specifying which rights and privileges are meant and how this can be brought about.

(b) Sanctions to be considered in the framework of a global ban on CW have to

- be in conformity with established international law,
- deter violations of the convention, and
- be expeditiously and effectively enforceable.

As international law does not provide for sanctions in the form of "contractual penalties", it does not appear feasible to try and provide for sanctions within the framework of a CW convention. Furthermore by

establishing "convention penalties" in different international treaties, the United Nations Charter could be put at the risk of being pre-empted.

IV. Misuse of challenge inspections

(a) Possible misuse of challenge inspections is a concern shared by delegations. It has informally been suggested that, provided the challenged State is found in compliance with the convention, it can claim compensation from the requesting State for any loss arising from the inspection and also that the requesting State should be forced to cover the expenses of the inspection.

(b) Misuse of challenge inspections cannot be ruled out. The convention in its present form does not provide for a political "filter" which establishes whether or not a request for a challenge inspection is warranted, nor does it provide for an inspection quota which would restrict the number of active or passive inspections per country.

The reason not to provide for a political "filter" in the phase of the initiation of a challenge is that it might in some cases be impossible to establish objectively whether or not a request is justified.

A provision providing for compensation in case the requested State is found to be in compliance would create additional difficulties: all challenge inspections, which would result in corroborating that the challenged State is in compliance, could then be denounced as constituting a misuse of the instrument of challenge inspections. (Furthermore, it implies also discrimination aganst less well-to-do States).

If there were obvious and blatant misuse of challenge inspections by one State, the community of nations would certainly take note of it. Such behaviour would also affect the prestige and standing of that particular State.

CONFERENCE ON DISARMAMENT

CD/CW/WP.192
11 March 1988

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

Working Paper

Non-production: Annex to Article VI [1]

During the intersessional work of the Ad hoc Committee on Chemical Weapons in December 1987 intensive discussions took place on the declaration and verification régime for the substances in Schedule [1] of Article VI.

However, despite the intensive work which was undertaken, a number of differences remained.

In an effort to resolve these differences the annexed redraft of the Annex to Article VI [1] is proposed. It tries to build on the discussions undertaken in December 1987. Rather than reflecting in all parts the national position of the Federal Republic of Germany it is intended to serve as a basis for further discussions aimed at reaching a compromise acceptable to all. It is hoped that it will point the way out of a difficult negotiating situation, which has arisen with respect to this very important part of Article VI.

The proposed régime tries to build on the following points on which agreement seems to exist:

- The substances in Schedule [1] are of particular concern and should thus be subject to a particularly strict monitoring régime,
- The aggregate amount of chemicals in Schedule [1] produced, acquired, retained, transferred or used should be subject to clear restrictions (at any given time, in any calendar year),
- While the chemicals in Schedule [1] should primarily be produced in a "single small-scale production facility" provision should also be made for production in "other facilities" in order to take account of necessary exceptions. However, the production in "other facilities" should be subject to quantitative limitations at low levels.

ANNEX TO ARTICLE VI [1]

GENERAL PROVISIONS

1. A State Party shall not produce, acquire, retain, transfer or use chemicals in Schedule [1] unless:

(I) the chemicals are applied to research, medical or protective purposes, and

(II) the types and quantities of chemicals are strictly limited to those which can be justified for research, medical or protective purposes, and

(III) the aggregate amount of such chemicals at any given time for research, medical or protective purposes is equal to or less than one metric ton, and

(IV) the aggregate amount for research, medical or protective purposes acquired by a State Party in any calendar year through production, withdrawal from chemical weapons stocks and transfers is equal to or less than one metric ton.

TRANSFERS

2. A State Party may transfer chemicals in Schedule [1] outside its territory only to another State Party and only for research, medical or protective purposes in accordance with paragraph 1.

3. Chemicals transferred shall not be retransferred to a third State.

4. Thirty days prior to any transfer to another State Party both States Parties shall notify the (International Authority).

5. Each State Party shall make a detailed annual declaration regarding transfers during the previous calendar year. The declaration shall be submitted within ... months after the end of the year and shall for each chemical in Schedule [1] include the following information:

(I) the chemical name, structural formula and Chemical Abstract Service Registry Number (if assigned);

(II) the quantity acquired from other States or transferred to other States Parties. For each transfer the quantity, recipient and purpose should be included.

PRODUCTION FACILITIES

6. Facilities which synthesize, acquire or use chemicals in Schedule [1] for research, medical or protective purposes shall be approved by the State Party.

7. Each State Party undertakes to carry out the production of chemicals in Schedule [1] beyond (10) kg per year in a single small-scale production facility, the capacity of which shall not exceed (one) metric tonne per year, as measured by the method established in ( ).

8. Synthesis of chemicals in Schedule [1] in other facilities is strictly limited per year to a total maximum of (10) kg at each such facility.

I. DECLARATIONS

(1) In case production of chemicals in Schedule [1] is carried out at a single small-scale production facility the following declarations shall be submitted:

A. Initial declarations

Each State Party which plans to operate a single small-scale production facility shall provide the (International Authority) with the location and a detailed technical description of the facility, including an inventory of equipment and detailed diagrams. For existing facilities, this information shall be provided not later than 30 days after the Convention enters into force for the State Party. Information on new facilities shall be provided six months before operations are to begin.

B. Advance notifications

Each State Party shall give advance notification to the (International Authority) of planned changes related to the initial declaration. The notification shall be submitted not later than ... months before the changes are to take place.

C. Annual declarations

(a) Each State Party possessing a single small-scale production facility shall make a detailed annual declaration regarding the activities of the facility for the previous calendar year. The declaration shall be submitted within ... months after the end of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule [1] produced, acquired, consumed or stored at the facility, the following information:

(I) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(II) the methods employed and quantity produced;

(III) the name and quantity of precursor chemicals listed in Schedules [1], [2] or [3] used for production of chemicals in Schedule [1];

(IV) the quantity consumed at the facility and the purpose(s) of the consumption;

(V) the quantity received from or shipped to other facilities within the State Party. For each shipment the quantity, recipient and purpose should be included;

(VI) the maximum quantity stored at any time during the year;

(VII) the quantity stored at the end of the year.

3. Information on any changes at the facility during the year compared to previously submitted detailed technical descriptions of the facility including inventories of equipment and detailed diagrams.

(b) Each State Party possessing a single small-scale production facility shall make a detailed annual declaration regarding the projected activities and the anticipated production at the facility for the coming calendar year. The declaration shall be submitted not later than ... months before the beginning of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule [1] produced, consumed or stored at the facility, the following information:

(I) the chemical name, structural formula and Chemical Abstracts Service Registry Number (if assigned);

(II) the quantity anticipated to be produced and the purpose of the production.

3. Information on any anticipated changes at the facility during the year compared to previously submitted detailed technical descriptions of the facility including inventories of equipment and detailed diagrams.

(2) <u>For each facility producing more than 100 grams but less than 10 kg per year of chemicals in Schedule [1] the following declarations shall be submitted:</u>

A. <u>Initial declarations</u>

Each State Party shall provide the (International Authority) with the name and location and a detailed technical description of (the) relevant part(s) of the facility, including an inventory of equipment and detailed diagrams. For existing facilities, this information shall be provided not later than 30 days after the Convention enters into force for the State Party. Information on new facilities shall be provided before

B. Annual declarations

Each State Party shall, for each facility make an annual declaration regarding the activities of the facility for the previous calendar year. The declaration shall be submitted within ... months after the end of that year and shall include:

1. Identification of the facility

2. For each chemical in Schedule [1] produced at the facility, the following information:

(I) the chemical name, structural formula and Chemical Abstract Service Registry Number (if assigned);

(II) the quantity produced;

(III) the quantity transferred to other facilities within the State Party. For each transfer the quantity, recipient and purpose of the transfer should be included;

(IV) the quantity transferred to States Parties. For each transfer the quantity, recipient and purpose of the transfer should be included.

3. Information on any changes at the facility during the year compared to previously submitted detailed technical descriptions of the facility including inventories of equipment and detailed diagrams.

(3) For facilities producing less than 100 grams per year of chemicals in Schedule [1] the following declarations shall be submitted:

(a) Each State Party shall, not later than ... months after the end of the previous calendar year, notify the (International Authority) of the number of facilities which during that year synthesized any one of the chemicals in Schedule [1] in quantities of less than (100) grams.

(b) If so requested by the (International Authority) more detailed information shall be submitted.

II. VERIFICATION

1. The single small-scale production facility shall be subject to systematic international on-site verification, through on-site inspection and monitoring with on-site instruments.

2. The number, intensity, duration, timing and mode of inspections for a particular single small-scale production facility shall be based on the risk to the objectives of the Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out there.

3. Each single small-scale production facility shall receive an initial visit from international inspectors promptly after the facility is declared. The purpose of the initial visit shall be to verify information provided concerning the facility, including verification that the capacity will not permit the production, on an annual basis, or quantities (significantly) above one metric ton, and to obtain any additional information needed for planning future verification activities at the facility, including inspection visits and use of on-site instruments.

4. Each State Party possessing or planning to possess a single small-scale production facility shall execute an agreement, based on a model agreement, with the (International Authority) before the facility begins operation or is used, covering detailed inspection procedures for the facility. Each agreement shall include: (to be developed).

CONFERENCE ON DISARMAMENT

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18 March 1988

ENGLISH ONLY

Ad Hoc Committee on Chemical Weapons

AUSTRIA

Working Paper

ARTICLE VI

The Austrian delegation has the honour to present herewith a computerized "Matrix Version" showing the link between chemicals listed in Schedules [1]-[3] of the Annex to Article VI of the rolling text of the Chemical Weapons Convention (CD/795) and the monitoring systems foreseen in document CD/802 (CD/CW/WP.186) presented by the delegation of the United States of America.

The Austrian delegation hopes that this will contribute to the ongoing discussions on these matters.

Matrix Version - Explanation

The present computerized Matrix version establishes a link between the chemicals listed in Schedules [1]-[3] of the Annex to Article VI of the "rolling text" of the Convention and the "monitoring system" foreseen in document CD/802. The document links certain monitoring systems to certain production quantities.

According to the document presented by the United States, the following monitoring régimes are to be distinguished:

SCHEDULE 1/MONITORING:

A: No international monitoring (except for "Saxitoxin and similar substances" - monitoring foreseen concerning production quantities of 10g and above);

B: Production reported in advance to Consultative Committee (General Conference), annual data declaration, systematic international on-site inspection;

C: See B; plus produced at the single small-scale facility, included in 1 metric ton/year aggregate limit subject to systematic international on-site inspection;

D: See C; plus possible continuous monitoring with instruments.

SCHEDULE 2/MONITORING:

A: Production quantity less than 1,000kg/year - no international monitoring;

B: Production quantity of 1-10t/year - annual data declaration;

C: Production quantity of more than 10t/year - annual data declaration and on-site inspection and possible need for continuous monitoring with instruments would depend on the capacity of the facility and other relevant factors.

SCHEDULE 3/MONITORING:

A: Production up to 30 tons/year - NO international monitoring;

B: Production above 30 tons/year - annual data declaration.

EXPLANATIONS OF ABBREVIATIONS:

"Short App."	- Short Appelation
"Purp."	- Purpose
"Observation"	- national references to be filled in
"r+m"	- research and medical purposes
"p"	- protective purposes
CASR-Nr.	- Chemical Abstract Service Registry Number

MONITORING SCHEDULE 1/1,

CHEMICAL SUBSTANCE MONITORING REGIME OBSERVATION

Nr.	Short App.	CASR-Nr.	Purp.	A	B	C	D	Observation
				THRESHOLDS				
				10	100g	10kg	-1000kg	
1.	SARIN E.G.	107-44-8	r+m		X	X	X	
			p		X	X	X	
	SOMAN E.G.	96-64-0	r+m		X	X	X	
			p		X	X	X	
2.	TABUN E.G.	77-81-6	r+m		X	X	X	
			p		X	X	X	
3.	VX E.G.	50782-69-9	r+m		X	X	X	
			p		X	X	X	
4.	SULPHAR MUSTARDS:		r+m		X	X	X	
			p		X	X	X	
	MUST.GAS EG	505-60-2						
	SESQUIMUST.	3563-36-8X						
	O-MUSTARD	63918-89-8						
5.	LEWISITES:		r+m		X	X	X	
			p		X	X	X	
	LEWISITE 1	541-25-3						
	LEWISITE 2	40334-69-8						
	LEWISITE 3	40334-70-1						
6.	NITROGEN MUSTARDS:		r+m		X	X	X	
			p		X	X	X	
	HN 1	538-07-8						
	HN 2	51-75-2						
	HN 3	555-77-1						
7.	QUINUCLI-DINYL BENZ.	6581-06-2	r+m		X	X	X	
			p		X	X	X	
8.	ALKYLPHOSPHO-NYLDIFLUOR-DIES, DF E.G.	676-99-3	r+m		X	X	X	
			p		X	X	X	
9.	ETHYL O2-... QL E.G.	57856-11-8	r+m		X	X	X	
			p		X	X	X	

MONITORING SCHEDULE 1/2

CHEMICAL SUBSTANCE			MONITORING REGIME				OBSERVATION
Nr.	Short App.	CASR-Nr.	Purp.	A	B	C	D	Observation
				THRESHOLDS				
				10	100g	10kg	-1000kg	
TO BE DISCUSSED FURTHER!								
1.	SAXITOXIN		r+m	X		X		X
			p	X			X	X
2.	3.3 DIMETHYL-BUTAN-2-01 (Pynacolyl Alkohol)		r+m		X	X		X
			p		X		X	X
3.	CS		r+m		X	X		X
			p		X		X	X
4.	CR		r+m		X	X		X
			p		X		X	X
5.	CHLOROSOMAN + CHLOROSARIN		r+m		X	X		X
			p		X		X	X
6.	SULPHUR MUSTARDS:		r+m		X	X		X
			p		X		X	X
	2-CHLOROETHYLCHLOROMETHYLSULPHIDE							
	BIS (2-CHLOROETHYL) SULPHONE							
	BIS (2-CHLOROETHYLTHIO) METHANE							
	1.3-BIS (2-CHLOROETHYLTHIO) -N-PROPANE							
	1.4-BIS (2-CHLOROETHYLTHIO) -N-BUTANE							

MONITORING SCHEDULE 2/1

(K E Y P R E C U R S O R S)

CHEMICAL SUBSTANCE			MONITORING REGIME				OBSERVATION
Nr.	Short App.	CASR-Nr.	Purp.	A	B	C	D	Observation
				T H R E S H O L D S				
				1000kg	1-10t	10t-		
TO BE DISCUSSED FURTHER!								
1.	CHEMICALS CONTAINING ONE P-METHY, P-ETHYL OR P-PROPY (NORMAL OR ISO) BOND			X	X	X		
2.	N.N-DIALKYLPHOSPHOR-AMIDIC DIHALIDES			X	X	X		
3.	DIALKYL N.N-DIALKYL-PHOSPHORAMIDATES			X	X	X		
4.	ARSENIC TRI-CHLORIDE	7784-34-1		X	X	X		
5.	2.2 DIPHENYL-2-HYDROXACETIC ACID	76-93-7		X	X	X		
6.	QUINUCLIDIN-3-OL	1619-34-7		X	X	X		
7.	N,N-DIISOPRO-PYLAMINOETHYL-2-CHLORIDE	96-79-7		X	X	X		
8.	N,N-DIISOPRO-PYLAMINOETHAN-2-OL	96-80-0		X	X	X		
9.	N,N-DIISOPRO-PYLAMINOETHANE-2-THIOL	5842-07-9		X	X	X		

MONITORING SCHEDULE 2/2

(K E Y P R E C U R S O R S)

CHEMICAL SUBSTANCE			MONITORING REGIME				OBSERVATION
Nr.	Short App.	CASR-Nr.	Purp.	A	B	C	D	Observation
				THRESHOLDS				
				1000kg	1-10t	10t-		
TO BE DISCUSSED FURTHER!								
1.	BIS (2-HYDROXYETHYL) SULPHIDE (THIOGLYKOL) 3.3-DIMETHYLBUTAN-2-01 (PINACOLYL ALCOHOL)			X	X	X		
2.	EXPANDED GROUPS FOR COMPOUNDS 5, 6, 7, 8, 9 AS FOLLOWS:			X	X	X		
(5)	2-PHENYL-2- (CYCLOHEXIL, CYCLOPENTYL OR CYCLOBUTYL)-2-HYDROXYACETYC ACIDS AND THEIR METHYL-, ETHYL-, N-PROPYL- AND ISO-PROPYL ESTERS							
(6)	3-OR 4-HYDROXYPIPERIDINE AND THEIR DERIVATES AND ANALOGES							
(7, 8, 9)	N,N-DISUBSTITUTED AMINOETHYL-2-HALIDES, N,N-DISUBSTITUTED AMINOETHAN-2-OLS, N,N-DISUBSTITUTED AMINOETHAN-2-THIOLS							

MONITORING SCHEDULE 3

CHEMICAL SUBSTANCE			MONITORING REGIME				OBSERVATION	
Nr.	Short App.	CASR-Nr.	Purp.	A	B	C	D	Observation
				THRESHOLDS				
				30t	30t			
1.	PHOSGENE	75-44-5		X	X			
2.	CYANOGEN-CHLORIDE	506-77-4		X	X			
3.	HYDROGEN-CYANIDE	74-90-8		X	X			
4.	TRICHLORO-NITROMETHANE	76-06-2 (CHLOROPICRIN)		X	X			
5.	PHOSPHOROXY-CHLORIDE	10025-87-3		X	X			
6.	PHOSPHORTRI-CHLORIDE	7719-12-2		X	X			
7.	DI-AND TRIMETHYL/ETHYL ESTERS OF PHOSPHOR (PIII) ACID			X	X			
(a)	TRIMETHYL PHOSPHITE	121-45-9						
(b)	TRIETHYL PH.	122-52-1						
(c)	DIMETHYL PH.	868-85-9						
(d)	DIETHYL PH.	762-04-9						
(e)	SULPHUR MONOCHLORIDE	19925-67-9						
(f)	SULPHUR DICHLORIDE	19545-99-0						

CONFERENCE ON DISARMAMENT

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Ad Hoc Committee on Chemical Weapons

GERMAN DEMOCRATIC REPUBLIC

Working Paper

Chemical Weapons Convention

Provisions to ensure the confidentiality of information provided in connection with verification activities

I.

In working out the Articles and Annexes to the Convention, provision should be made for protecting, in the process of implementing international verification measures, confidential data, commercial secrets and other relevant information not related to chemical weapons. The following methods could serve this end.

1. Precise definition of what is required for the verification purpose and determination of procedures which prevent any exceeding of the limits established under the Convention.

2. Measures to ensure the proper conduct of the inspectors and other staff members of the Organization in regard to information to which they have access in the performance of their functions.

3. Creation of an organizational and administrative framework ensuring a high level of confidential information safety by the Technical Secretariat.

II.

1. The goals to be achieved by the verification process, the declarations and inspection tasks deduced from them are determined by Articles III to VI, Article IX and the pertinent annexes. Checking the accuracy and consistency of the terms used would be an editing job.

The mandate, to which inspectors are bound, will ensure compliance with the scope of inspections and the acquisition of data therefore, as laid down in the Convention.

- The carrying out of verification activities of inspectors should be based on an inspection mandate issued by the Technical Secretariat. (CD/795, page 89)
- Inspectors shall refrain from activities going beyond this mandate and shall only request the information and data which are necessary to fulfil their mandate. (CD/795, page 89)

The challenge inspection request corresponds to the routine inspection mandate:

- The on-site inspection on challenge shall be carried out in accordance with the request. (CD/795, page 113)

As laid down in the Annexes to Articles IV to VI, subsidiary arrangements shall be concluded between States Parties and the Organization. In these arrangements the activities of the inspectors for each individual facility will be delineated in concrete terms. This precise description will be reflected in the inspector's mandates. Models are being worked out as a general basis for the negotiations of subsidiary arrangements:

- Each State Party shall execute an agreement, based on a model agreement, with the International Authority, governing the conduct of inspections of the facilities declared by the State Party. The agreement shall provide for the detailed subsidiary arrangements which shall govern inspections at each facility. (CD/795, page 73)

Those agreements include provisions limiting the inspection activities to what is necessary in reaching the verification aim. For example:

- It should be determined which information, provided about the facility, shall be kept by the International Authority under lock and key at the facility. (CD/795, page 100)
- The area(s) and place(s)/site(s) to which inspectors shall have access are to be determined in the facility agreement. (CD/795, page 99)

For challenge inspections, appropriate procedures are under discussion to prevent compromising sensitive information unrelated to the objective of the inspection:

- In the event of a challenge inspection, the requested State may also make proposals for the protection of sensitive equipment or information not related to chemical weapons. In exceptional cases, the requested State may propose arrangements to demonstrate compliance, alternative to a full and comprehensive access. (CD/795, page 114)

Provisions concerning the rights and duties of international inspectors are included in different parts of the rolling text and in other documents. Suggestions have been made with a view to combining these provisions in a document, being generally applicable to all verification activities set out in the Convention.

Other ways to focus inspections on what is essential under the inspection objective are:

- In the performance of their duties on the territory of a State Party, inspections shall, if the State Party so requests, be accompanied by representatives of this State. (CD/795, page 98)

What could be further explored in this context are provisions concerning the use of standardized equipment and instruments for control and monitoring purposes, the right of a State Party to inspect those instruments, and development of standard methods for measurements or the establishment of facts. These procedures should in no way compromise the effectiveness of inspections. In order to provide for concrete mandates in all cases of routine inspection, further models for agreements could be necessary.

2. With a view to ensuring the proper conduct of inspectors and other staff members of the Technical Secretariat in handling information, there exist already elaborate instructions in the text of Article VIII, Section D dealing with the Technical Secretariat, and in the Guidelines for the International Inspectorate. The general policy of the Organization should be geared to the objective of creating and sustaining a high standard of ethics within the Technical Secretariat's staff concerned with the implementation of the Convention. The following provisions are among those specifically worded to this end:

- Only citizens of States Parties shall serve as international inspectors or as other members of the professional and clerical staff. (CD/795, page 26)
- The paramount consideration in the employment of the staff and in the determination of the conditions of services shall be the necessity of securing the high standards of efficiency, competence and integrity. (CD/795, page 26)
- Inspectors shall not communicate to any State, organization or person outside the Technical Secretariat any information to which they have access in connection with their activities in a State Party. (CD/795, page 98)
- In the performance of their duties, the Director-General of the Technical Secretariat, the inspectors and other members of the staff shall not seek or receive instructions from any Government or from any other source external to the Organization.

In particular, subject to such responsibilities, they shall not disclose any confidential information coming to their knowledge by reason of their official duties. [Article VIII of Section D, updated version of 7 March 1988 (CW/GC/13)]

- Inspectors shall abide by relevant regulations established within the Technical Secretariat for the protection of confidential information. (CD/795, page 89)
- Inspectors shall remain bound by their relevant regulations after they have left their functions as international inspectors. (CD/795, page 89)

3. The Director-General of the Technical Secretariat should be responsible for establishing the organizational and administrative framework to protect confidential information. Article VIII of Section D, as updated on 7 March 1988, (CW/GC/13) contains the following provision:

- The Director-General shall establish a régime governing the handling and protection of confidential data by the Technical Secretariat.

The guidelines for the International Inspectorate contain some specific measures in this regard:

- After the inspection visit, inspectors shall submit to the Technical Secretariat a report on the activities conducted by them and on their findings. The report shall be factual in nature. It shall only contain facts relevant to compliance with the Convention, as provided

for under the inspection mandate. Relevant regulations, governing the protection of confidential information, shall be observed. (CD/795, page 90)

- The report shall be kept confidential. (CD/795, page 90)

The régime to be established by the Director-General may provide, among other things, for the application of a facility code number system and for classifying the information and data, according to their sensitivity, in different systems.

Conclusions:

Footnote 3 on page 18 of the rolling text reads as follows: "It was agreed that provisions to ensure the confidentiality of the information provided should be elaborated."

The present paper gives an overview of the extent to which such agreement has been implemented so far. It is obvious that provisions to protect confidential information do exist in various parts of the text. Still, some gaps need to be filled. The main task to be tackled in this respect would be to consolidate the existing material, as appropriate, and to include it in the rolling text.

CONFERENCE ON DISARMAMENT

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GERMAN DEMOCRATIC REPUBLIC

Working Paper

Article VI: Régime for Chemicals in Schedule [1]

I

The provisional text of the Annex to Article VI [1] in CD/795, pages 63 to 68, contains a certain number of unresolved problems. These problems are mostly related to possible exceptions to the principle that each State Party which produces chemicals in Schedule [1] for research, medical or protective purposes shall carry out the production at a single small-scale facility. In the light of the discussions on this subject held during the inter-sessional work of the Committee, and the approaches put forward in Working Papers CD/802 (CD/CW/WP.186) of 5 February 1988, presented by the United States of America, and in CD/CW/WP.192 of 11 March 1988 presented by the Federal Republic of Germany, the following is submitted for consideration in an attempt to resolve still existing differences:

II

1. The single small-scale production facility

(a) The rule, which implies that the production of Schedule [1] chemicals has to be concentrated in such a facility, has for a long time been met with general acceptance. There is the understanding that Schedule [1] shall contain those chemicals posing the greatest risk to the Convention. Therefore the Annex to Article VI [1] is drafted in such a way as to emphasize the general prohibition to produce, acquire, retain, transfer or use these chemicals. What is defined are only certain exceptions to this prohibition.

In these exceptional cases the production of Schedule [1] chemicals shall be concentrated in one small-scale facility with a capacity not exceeding

one metric tonne/year. This is the recognized way to implement a reliable verification régime which is indispensable for chemicals having those properties.

It shall give all States Parties the assurance that the provisions of Article I of the future Convention are strictly observed, and this irrespective of whether or not this facility will be State-owned.

(b) If the quantity of Schedule [1] chemicals to be produced by a State Party is far below the threshold of the aggregate amount of one metric tonne per year, this would be no reason to break the rule mentioned under (a). In this case a facility with a capacity of up to one metric tonne per year would not be required. But even an installation having a capacity of a few kilogrammes per year might function as a "small-scale production facility".

In comparison with a facility reaching the upper capacity-threshold, the verification requirements would be lower. This could be taken into account according to the provision contained in CD/795, page 65, under II.3, which reads as follows:

> "The number, intensity, duration, timing and mode of inspection for a particular facility shall be based on the risk to the objectives of the Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out...".

2. A problem that has been raised in the discussions is to provide for some production or synthesis of Schedule [1] chemicals outside a small-scale production facility. Examples had been given which indicated that the concentration of all exceptional production not prohibited in one facility might create some practical difficulties for several States Parties.

The search for a compromise solution should proceed from the understanding that:

- exceptions to the rule, i.e. production in a small-scale facility, should be very limited;
- all production of Schedule [1] chemicals should be included in the aggregate amount of one metrical tonne, as provided for in the Annex to Article VI [1] under 1;
- any transfer outside a State Party's territory to another State Party or any shipment to a facility within the territory of a State Party should be only possible from a facility being designated as the single small-scale production fa ility of a State Party;
- production for protective purposes shall in any case be carried out

The régimes to be applied for such solutions should finally have the same effect as the régime for the single small-scale production facility. They shall provide for the same degree of certainty and transparency in regard to the strict observance of the obligations of Article I, including the prohibition to develop chemical weapons.

3. Possible compromise solutions

(a) The need was mentioned to produce in exceptional cases outside the small-scale production facility Schedule [1] chemicals in quantities up to 10 kg/year. One example has been quoted so far for such a need, i.e. the production of nitrogen mustard for the treatment of cancer.

This problem could be solved in the following manner:

- the possibility to produce up to ... kg/year nitrogen mustard for medical purposes in a facility outside the single small-scale production facility could be provided for in the Annex;
- the declarations to be made and the verification régime to be applied would correspond to those of a single small-scale production facility. This régime would cease to apply once the chemical became an ingredient of the final product, i.e. medicine;
- modalities for further exceptions of this nature could be developed and included in the Annex.

(b) It has been emphasized that only in some rare cases the synthesis outside the small-scale production facility for research was required to be carried out in 1 to 10 laboratories, which would be devoted to fundamental research or research for medical purposes. The quantities to be synthesized would be very small. With a view to solving this problem, a quantity of 10 or 100 grammes/year had been considered sufficient. The possibility could be provided for to synthesize Schedule [1] chemicals in laboratories outside the single small-scale production facility.

These provisions should include:

- the maximum number of these laboratories;
- the maximum quantity of synthesized chemicals per year;
- the purposes for which the chemicals are applied in the field of fundamental research and medicine.

As regards verification, the following can be proposed for consideration:

The laboratories described above should be specifically licensed and monitored by the State Party (with regard to the permitted purpose and the limited amount). Furthermore, these laboratories shall be subject to declaration to the Technical Secretariat. Appropriate international verification measures should be applied to them.

USSR	CD/CW/WP.196	Letter Dated 28 March 1988 from the Representative of Union of Soviet Socialist Republics to the President of the Conference on Disarmament Transmitting a Text of the Statement of the Ministry of Foreign Affairs of the USSR on 16 March 1988	Also issued as CD/821 29 Mar. 88

NOT REPRODUCED
(See WP volume)

FRG/ Italy	CD/CW/WP.197	The Order of Destruction of Chemical Weapons	Also issued as CD/822 29 Mar. 88

NOT REPRODUCED
(See WP volume)

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GERMAN DEMOCRATIC REPUBLIC

Working Paper

Chemical Weapons Convention

On-site inspection on challenge - Guidelines on the International Inspectorate

I.

1. The principles for on-site inspection on challenge, included in CD/795, Appendix II, pages 113-115, represent a solid basis for further work on Article IX of the Convention. The elements contained therein, like

"conduct of the requested on-site inspection with the purpose of establishing relevant facts";

"access to the site the inspectors deem necessary";

"least intrusive manner";

"protection of sensitive equipment or information"

are essential for the challenge procedure. Therefore, an answer should be given how these elements will be reflected in the inspection methods applied in such an inspection. By the same token answers are proposed on the questions related to the designation of inspectors for on-site inspections under Article IX, the equipment for inspectors carrying out such inspections, specific actions of the requested State in fulfilling the right and obligation to demonstrate its compliance with the Convention.

2. The guidelines proposed under II of this paper build also upon ideas contained in the Working Paper CD/CW/WP.766 of 2 July 1987, presented by

Canada and Norway. The proposed guidelines are intended to supplement the Guidelines on the International Inspectorate as contained in CD/795, Appendix I, Addendum, pages 88-90.

This amendment would provide for guidelines covering all the on-site inspection activities of international inspectors under the Convention.

II.

The guidelines on the International Inspectorate 1/ should be amended as follows:

IV.

1. For inspections under Article IX, the guidelines set out in paragraphs I to III shall apply, as appropriate, unless otherwise provided for in the following (delete footnote 1 on page 88).

2. (a) Inspections under Article IX shall only be performed by inspectors especially designated for this function. In order to designate inspectors for inspections under Article IX, the Director-General shall, by selecting inspectors from among the full-time inspectors for routine inspection activities, establish a list of proposed inspectors. It shall comprise a sufficient number of senior international inspectors having the necessary qualification, experience and skill. In the event certain required skills are not available from within the Technical Secretariat, the Director-General might as an exception and with the prior consent of the Executive Council, include further personalities in the list. These personalities shall undertake the same obligations as provided for under Article VIII, D 6, as well as in these guidelines. The list of proposed inspectors shall be submitted to the States Parties. Any inspector contained in this list shall be regarded as accepted unless a State Party, within 30 days after receipt of the list, declares its non-acceptance. In the case of non-acceptance, the proposed inspector shall be deleted from the list. The Director-General shall, in case it is deemed appropriate, submit further proposals in addition to the original list of proposed inspectors.

If, in the opinion of the Director-General the non-acceptance of proposed inspectors impeded the designation of a sufficient number of inspectors for inspections to be carried out under Article IX, the Director-General shall refer the cases of non-acceptance to the Executive Council. Pending the final solution of the case, the Executive Council could decide a temporary suspension from the provision that proposed inspectors shall be accepted by all States Parties.

(b) The Director-General shall communicate to the States Parties the list with the designated inspectors for inspections under Article IX.

Whenever amendments to the list of inspectors designated for inspections under Article IX are necessary, new inspectors shall be designated in the same manner as set forth with respect to the initial list.

(c) The States Parties shall, within 30 days of the receipt of the list of designated inspectors, provide for or ensure the provision of visas and other such documents which each inspector may need to enter and to remain on the territory of the State Party for the purpose of carrying out inspection activities under Article IX. These documents shall have a validity of at least 24 months.

If a State Party designates, in accordance with III.3 of these guidelines, the points of entry into and departure from the State concerned, it shall supply the required information to the Technical Secretariat within the time span set out in this subparagraph.

(d) In order to assist, if necessary, the inspection team in carrying out inspections under Article IX, a list of supporting staff with special skills or training shall be drawn up by the Director-General. As regards this list, Paragraph 2, subparagraphs a, b and c, shall be applied accordingly.

3. The Director-General shall designate, in accordance with the procedure under Article IX, the members of an inspection team. No national of a State Party requesting or receiving an inspection or being alleged to have violated the Convention in the case under consideration, shall be a member of the inspection team.

4. The State Party, which has been notified of the arrival of an inspection team, shall ensure its immediate entry into the territory and the safe conduct of the inspectors, their supporting staff, equipment and supplies, within the prescribed time frames of ... (hours), from their points of arrival to the site(s) to be inspected and back. It shall provide or arrange for the provision of meals and lodging, working space, laboratory space, if required, communication means, interpretation services, transportation and, if necessary, for the medical care of the inspection team and its supporting staff. The State Party receiving the inspection shall be reimbursed for its expenses by the Organization.

5. (a) The inspection team may bring on to the inspection site such instruments and devices, which are necessary to meet the inspection requirements.

This includes equipment for discovering and preserving evidence related to the compliance with the Convention, equipment for recording and documenting the inspection, as well as for communication and for determining the exact geographical position of the inspection site.

(b) The equipment shall be in the property of the Technical Secretariat and be designated and approved by it. The Technical Secretariat shall, to the extent possible, select that equipment which is specifically designed for the specific kind of inspection required. Photographic cameras shall be capable of instant development of double prints, one of which will be kept by the inspection team and the other by a representative of the inspected State Party. Designated and approved equipment shall be specifically protected against unauthorized alteration.

(c) The designation and approval of the equipment shall be documented by labels and certificates, which will be attached to the equipment. The State Party inspected shall have the right, without prejudice to the time frames set forth in Article IX, to inspect the equipment, i.e. to check the identity of the equipment with the labels and certificates of the Technical Secretariat. The State Party inspected may exclude equipment without the above-mentioned documents from clearance. Such equipment shall be kept at the point of entry until the inspection team leaves the respective country.

6. In fulfilling its obligation under Article IX of the Convention, the requested State shall, upon receipt of the request, take swift action to preserve the status quo of the facility or of the site to be inspected and to prevent any action that may jeopardize the proper conduct of the inspection. Measures to be taken to this end, may include but are not necessarily restricted to, impeding cleaning operations, preventing removal of material of relevance, protecting facility records from attempts of alteration, denying access to installations, except for the personnel which is necessary for maintenance, etc.

The States Parties shall empower in advance their national authorities and shall equip them with personnel and technical capability to enforce such orders. 2/

7. The Technical Secretariat shall, as far as technically feasible, monitor the implementation of the measures to guarantee the status quo as described under paragraph 6. To this end, at the moment when a State Party is notified

of the request, an inspector may be dispatched to the facility to be inspected. The requested State Party shall arrange for the inspector's earliest possible arrival at the site to be inspected, and shall assist him in his monitoring activities. The inspector's findings concerning the effectiveness of the measures to ensure the status quo shall be attached to the final report of the inspection team. 2/

8. (a) Inspectors shall perform their functions under Article IX, on the basis of the request. They shall refrain from activities going beyond this request.

(b) In exercising their right to full and unimpeded access to all parts of the facility, the inspector shall be entitled to order samples to be taken for analysis, to interview personnel, to inspect documentation and records, to order photographs to be taken, and to apply other verification methods necessary for detecting or preserving evidence, as appropriate.

(c) In accordance with the principle of conducting inspections in the least intrusive manner possible, the inspectors shall prior to more intrusive apply less intrusive methods or measures. They shall proceed to more intrusive methods or measures when the evidence gathered to this point does not provide sufficient relevant facts with the level of the reliability that is needed for accomplishing their tasks.

(d) In case the inspectors come across information or facts during their inspections, which, pursuant to the request, does not relate to the matters on which reassurance is required, including the circumstances and nature of the suspected non-compliance, they shall refrain from documenting or otherwise preserving them. Documented information of this kind shall not physically be carried out of the inspected site.

9. The Technical Secretariat shall issue a manual containing specific inspection methods for investigating alleged violations of the obligations under Article I.

(For illustrative purposes a possible outline of such a manual related to the investigation of

- the alleged development and production of chemical weapons, especially illegitimate production of Schedule-[1]-chemicals

- the alleged production of chemical weapons by diversion of chemicals for chemical weapons purposes
- the alleged clandestine stockpiling of chemical weapons
- the alleged use of chemical weapons

could be considered at a later stage.)

Notes

1/ CD/795 Appendix I Addendum, pp. 88-90.

2/ The final placement of these provisions within the text of the Convention could be discussed.

CONFERENCE ON DISARMAMENT

CD/CW/WP.199
7 April 1988

ENGLISH
Original: FRENCH

Ad Hoc Committee on Chemical Weapons

FRANCE

Working paper

Security stocks: proposed amendments

The following proposals, to be inserted in the "rolling text" of the draft convention (CD/795), follow the existing pattern of this text. The general prohibition of chemical weapons remains the rule, security stocks constituting one element in the transitional 10-year régime corresponding to the first phase of implementation of the Convention. They represent an option which each State party to the future agreement will be free to endorse.

*

ARTICLE I. GENERAL PROVISIONS ON SCOPE

Add a paragraph 7:

"These provisions shall not affect the specific, transitional rules relating to the security stock."

*

ANNEX TO ARTICLE I. PROVISIONS RELATING TO THE SECURITY STOCK

1. Objectives

The States Parties recognize the need for each of them to ensure its security during the transitional phase of destruction of stocks of chemical weapons.

To this end,

(1) Each country, if it so desires, may, during the first eight years after the entry into force of the Convention, hold under international control a limited stock of chemical weapons known in the text of the present Convention as a "security stock".

(2) This security stock shall be destroyed under international control not later than during the ninth or tenth year after the entry into force of the Convention, the commitment to such destruction being made by each

State Party at the time of signature. Any production facility assigned to the security stock under the terms of article 2, paragraph 3, and article 4 of the present annex shall be destroyed not later than in the ninth year following the Convention's entry into force.

(3) The verification régime applicable to this stock shall be identical with that for other stocks remaining after the Convention's entry into force. This stock shall be subject, in the same conditions, to the inspection-on-challenge procedure if one of the parties considers it has grounds for believing that a State has violated the provisions of the Convention relating to security stocks.

2. General rules relating to the security stock

(1) Toxic chemicals of unitary munitions forming part of the security stock and, if necessary, one of the two constituent components of binary variants shall be entered in Schedule [1] of the annex to article VI of the Convention.

The security stock shall be composed exclusively of munitions. It may not exceed a volume of 2,000 metric tonnes of toxic chemicals. In the case of binary munitions, this volume shall relate to the toxic chemical generated by the munitions and not to their constituent reagents.

(2) The number of storage places shall be limited to a maximum of ... sites.

(3) The establishment and maintenance of this stock may be ensured only by a single production facility comprising, as needed, the means of:

Manufacturing the chemical and toxic agents listed in Schedule [1] of the annex to article VI of the Convention; and

Loading and maintaining the munitions.

(4) This single facility shall be declared in accordance with the provisions of section I.A of the annex to article V and placed under international control, in accordance with the procedures defined in article 4 of the present annex.

(5) The establishment, where necessary, of the production facility once the Convention has entered into force shall be effected under international control.

(6) This facility may be different from the small-scale production facility authorized under article VI of the Convention for research, medical or protective purposes.

3. Declaration of stocks

The declaration of the security stock shall be separate from that of other stocks as provided for in the annex to article III and in section I of the annex to article IV. It shall be deposited with the Executive Council within 30 days following the accession of the signatory country and shall be updated every year during the 10 years following the Convention's entry into force.

It shall comprise the total volume of the stock and the detailed composition thereof, on the same terms as declarations of stocks under the general régime, and the choice of the acceding country as between the following three options:

Option No. 1 - One or more declared places of storage:

The declaration of the security stock shall in this case include this place or these places or storage.

Any transfer of all or part of the security stock shall be subject to supervision by the Technical Secretariat.

Option No. 2 - A single undeclared place of storage:

A sealed envelope specifying the location of the security stock shall immediately be deposited with the Technical Secretariat.

In the event of formal notice being given, the following procedure may be put into effect:

Either the suspicion of violation of the provisions of the Convention relates to a location where the requested State denies that its stock is situated, in which case the envelope shall not be opened but the requesting State shall be free to request an on-site inspection in the inspection-on-challenge conditions;

Or the requested State acknowledges that the location giving rise to suspicion of violation is the place where its stock is situated, in which case, if the requesting State declares itself dissatisfied with this initial response, the envelope shall be opened as of right. If the requesting State still considers itself dissatisfied, it may request an on-site inspection in the inspection-on-challenge conditions.

Option No. 3 - Two or more undeclared places of storage (up to a maximum limit of ... locations):

In this case, the State party shall deposit with the Technical Secretariat a sealed envelope for each place of storage specifying the characteristics (composition, volume) of the stock situated in that place.

In the event of formal notice being given, the following procedure may be put into effect:

Either the suspicion of violation of the provisions of the Convention relates to a location where the requested State denies that a part of its stock is situated, in which case the envelope shall not be opened but the requesting State shall be free to request an on-site inspection in the inspection-on-challenge conditions;

Or the requested State acknowledges that the location giving rise to suspicion of violation is the place where a part of its stock is situated, in which case, if the requesting State declares itself dissatisfied with this initial response, the corresponding envelope shall be opened as of right. If the requesting State still considers itself dissatisfied, it may request an on-site inspection in the inspection-on-challenge conditions.

After the opening of the envelope (option No. 2) or of one of the envelopes (option No. 3), every State shall have the possibility of transferring the corresponding stock to another undeclared place. A further sealed envelope shall in that case be previously forwarded to the Technical Secretariat.

4. Declaration and procedures for monitoring the production facility assignable to the security stock

The single production facility assigned to the security stock, as defined in article 2, paragraph 3, of the present annex, shall be placed under international control on the same basis as other facilities declared under the Convention, apart from placing under seal.

All manufacturing operations involving products in Schedule [1] of the annex to article VI of the Convention undertaken in the single production facility shall be reserved for the establishment or maintenance of the security stock and shall be effected under international control.

5. Destruction of security stocks

Any country which wishes to eliminate its security stock sooner than under the provisions of the third paragraph of the present article may do so by declaring, if it has not already done so, its site or sites and by forwarding an estimated destruction schedule to the Technical Secretariat. The general régime for the destruction of the security stock and the related single production facility shall in that case apply.

In the case of States which have chosen option No. 2 or option No. 3 as described in paragraph 3 of the present annex, the envelopes shall be opened at the end of the eighth year following the Convention's entry into force. In all cases (options Nos. 1, 2 and 3), the storage facilities shall at the end of the eighth year be transferred to international control, in accordance with the procedures provided for in the case of stocks under the general régime in article IV of the Convention.

The security stock shall be transported to the destruction site or sites and half of it shall be destroyed in the ninth and tenth years, in accordance with a detailed plan transmitted by the possessor State to the Technical Secretariat.

6. Destruction of the production facility assignable to the security stock

Any country which wishes to destroy the single production facility before the ninth year following the Convention's entry into force may do so after having forwarded to the Technical Secretariat the estimated schedule for such destruction.

In any event, the destruction of this facility shall be effected not later than the end of the ninth year following the Convention's entry into force.

7. Updating or renewal of the security stock

(1) The States Parties to the Convention undertake to destroy munitions from the security stock, and to manufacture new munitions intended for that stock, under international control, in the following conditions:

They undertake to prepare a detailed declaration of the elements in the security stock which are considered obsolete, to effect - under national responsibility - the transfer of those elements to a destruction facility, to forward a destruction schedule to the Technical Secretariat, and to carry out such destruction under international control;

The production of new munitions, which may be different from the munitions destroyed, shall be effected under international control in the single production facility reserved for this purpose, within the limit of the authorized tonnage for toxic chemicals.

(2) In the event of the updating of the security stock, the declaration (option No. 1) or the contents of the envelopes (options Nos. 2 and 3) shall be updated within three months following commencement of this operation.

*

ARTICLE III. DECLARATIONS

Amend paragraph 1 (c) (Other declarations) to read:

"The precise location ... of any facility, with the exception of the production facility assigned to the security stock, as defined in the annex to article I, ...".

*

ARTICLE IV. CHEMICAL WEAPONS

Amend paragraph 1 to read:

"The provisions of this article and its annex shall apply, without exception other than the rules relating to the security stock as defined in the annex to article I, to any and all chemical weapons ...".

*

ARTICLE V. CHEMICAL WEAPONS PRODUCTION FACILITIES

Amend paragraph 1 to read:

"The provisions of this article shall apply to any and all chemical weapons production facilities, except the production facility assigned to the security stock in accordance with the terms of the annex to article I, under the jurisdiction or control ...".

Delete paragraph 3.

*

ARTICLE IX. CONSULTATIONS, CO-OPERATION AND FACT-FINDING

Add the following sentence to paragraph 1:

"The specific procedures of the inspection-on-challenge régime applicable to security stocks shall be those of paragraph 3 of the annex to article I."

CD/CW/WP.200

Draft Special Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament

15.4.88

NOT REPRODUCED

USA	CD/CW/WP.201	Letter Dated 18 April 1988 from the Representative of the United States of America Addressed to the President of the Conference on Disarmament Transmitting the Text of a Document entitled 'Information presented to the Visiting Soviet Delegation at the Tooele Army Depot, 18-21 November 1987'	Also issued as CD/830 19 Apr. 88

NOT REPRODUCED
(See WP volume)

CD/CW/WP.202

Programme of Work for the Second Part of the 1988 Session

18.7.88

NOT REPRODUCED

CONFERENCE ON DISARMAMENT

CD/CW/WP.203
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Original: ENGLISH

Ad hoc Committee on Chemical Weapons

NETHERLANDS

Provision of data relevant to the Chemical Weapons Convention

Introduction

Multilateral exchange of data prior to the signing of the Chemical Weapons Convention is an essential prerequisite for a successful finalization of the drafting of the convention. In order to contribute to a speedy and successful conclusion of the negotiations the Netherlands would therefore like to present to the Conference on Disarmament the data asked for in CD/828 (attachment 1). For illustrative purposes a breakdown of the answer to question 2 is given in attachment 2. In addition we would like to make a few observations on the problems connected with the provision of data.

Accuracy of data

The data given, especially those in attachment 2, are based on voluntary contributions from the companies concerned. Completeness can therefore not be guaranteed. The data provided in attachment 2 are based on the situation at the beginning of 1988. As market conditions change and the state of technology develops further, the data will change. However, it is not to be expected that the figures provided in attachment 2 will change dramatically in the near future.

Thresholds

It is generally agreed that production, processing and consumption of scheduled chemicals should only be monitored when the quantities produced etc. are above certain thresholds. The level of these thresholds could be set on the basis of two criteria. The first, most important, criterion is that the threshold should be so low as to include all facilities that are considered most relevant. (Efforts to agree on a threshold have until now been based on this criterion.)

The second criterion is that the threshold should be high enough to exclude from monitoring a possibly large number of facilities of little or no relevance. (Including a large number of less relevant facilities in a routine monitoring system would make this system ineffective and unduly costly.)

The first criterion is of a principal nature. The second is purely practical. In order to help provide a clearer picture of the practical

consequences of certain thresholds, attachment 2 indicates the range in which production, processing or consumption takes place. Schedule 3B (dual purpose chemicals) in the attachment might serve as an example: the number of facilities producing schedule 3 dual purpose chemicals that would have to be monitored in the Netherlands would be the same whether the threshold was fixed at 100 tons a year or 10,000 tons a year.

Three schedules and four categories

The large difference between the quantities processed or consumed of the precursors on schedule 3 (such as phosphorus oxychloride and phosphorus trichloride) and the dual purpose chemicals on schedule 3 (such as phosgene and hydrogen cyanide) seems to imply that on the basis of quantities processed or consumed, the chemicals on schedules 1, 2 and 3 might be divided into four categories.

	usual quantity processed/consumed
schedule 1	0.01 - 10 kilos
schedule 2	10. - 1,000 kilos
schedule 3 precursors	1,000 kilos - 1,000 tons
schedule 3 dual purpose chemicals	10,000 - 100,000 tons

The figures presented above are characteristic for the Netherlands situation but could also apply to similar countries. For countries with a much larger chemical industry the figures might be higher. The figures seem to imply that considerable differences exist between quantities usually processed or consumed of chemicals in different categories. It might be useful to take these facts into consideration in establishing thresholds for verification purposes.

Relevant and irrelevant quantities

In attachment 2 we have, for illustrative purposes, given an estimate of the number of locations in the Netherlands where nitrogen mustard-2 (bis (2-chloroethyl) methylamine) is used for medical purposes. The total amount used for these purposes in the Netherlands is currently between 20 and 100 grammes a year. It is used as a cytostatic agent (for cancer therapy) in a number of hospitals. It is also used in a solution for the treatment of certain skin diseases. In the latter case treatment often takes place at the patient's home. The number of locations in the Netherlands where schedule 1 chemicals are used is therefore quite considerable (30 to 60). The quantities used at each of these locations (varying from 0.01 grammes at home to a few grammes at specialized cancer hospitals) are however, of absolutely no relevance for the purposes of a CW convention.

The same is true for the use of small (kilogramme) quantities of schedule 3 chemicals for research. The use of such quantities has therefore not been included in attachment 2.

Production facilities and production locations

In answering the questions posed in CD/828 it is difficult to avoid the problem of defining a "facility". For civil industry a facility could be considered to consist of one or more items of production equipment that are coupled in order that a chemical reaction or a sequence of chemical reactions can take place. For the purpose of estimating the effort needed to verify non-production, however, the number of relevant locations that have to be inspected might be more important than the number of sets of relevant equipment. Therefore the number of locations (8) is given instead of the number of relevant facilities (12). The latter number is higher than the number of locations, as some locations contain several relevant production facilities.

Schedule 1 poses special problems. In the laboratory in the Netherlands where research into protection against CW takes place it is difficult to identify specific schedule 1 production equipment. The synthesis of small quantities (range: 10 - 200 grammes) for protection purposes takes place in multi-purpose laboratory equipment. In this case it therefore seems unwise to define a facility as a specific set of equipment.

Attachment 1

Netherlands

Type of Data		Answer
1.	Presence of CW on own territory */	no
	Possession of CW on territory of another State	no
2.	Aggregate number of facilities for the production and storage of CW, and for production, processing and consumption of chemicals on schedules (1), (2), (3) above thresholds to be determined	8 **/ locations
3.	- Types and names of CW agents produced	not applicable
	- Types of CW munitions stored; CW agents in bulk	not applicable
	- Names of chemicals on schedules (1), (2) and (3) produced in the chemical industry	$POCl_3$ (phosphorus oxychloride) $COCl_2$ (phosgene) HCN (hydrogen cyanide)
4.	Plans and methods for the destruction of CW including the number of facilities and the anticipated length of their operation during the 10 year destruction period	not applicable

*/ Small remnants from World War II which may exist are not included.

**/ a. A breakdown of this number is given in attachment 2.

b. Consumers of schedule 1 chemicals for medical purposes who use less than a few grammes a year are not included in this number.

Attachment 2

Breakdown of answer to question 2

	Quantity between	Number of locations
Schedule 1		
production (synthesis)	0.1 - 1 kilo */	1
consumption (not including producers)	0.01 - 0.1 kilos **/	30 to 60
Schedule 2		
production		0 ***/
processing/consumption (not including producers)	100 kilos - 1 ton	1
Schedule 3 A		
precursors		
production	100 tons - 1,000 tons	1
processing/consumption (not including producers)	100 tons - 1,000 tons 1 ton - 10 tons	2 ****/ 1 ****/
Schedule 3 B		
dual purpose chemicals		
production	10,000 - 100,000 tons 10 - 100 tons	2 *****/ 1 ******/
processing/consumption (not including producers)		

*/ Total quantity produced

**/ Total quantity used

***/ This number does not include the synthesis of small quantities (less than 1 kilo a year) of key precursors that are used for the synthesis of schedule 1 chemicals. This synthesis of schedule 2 chemicals takes place in the same laboratory as the synthesis of schedule 1 chemicals mentioned above, and would therefore not necessitate an additional verification effort.

****/ In general the number of production locations mentioned in this paper is the same as the number of relevant production facilities. However, at two of the three production locations that process schedule 3 chemicals two or more production facilities are involved in such processes.

*****/ At one of these locations the consumption of schedule 2 chemicals, mentioned above, takes place.

******/ The company producing this relatively small quantity will cease production at the beginning of 1989.

CONFERENCE ON DISARMAMENT

CD/CW/WP.204
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Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

Verification of Non-Production of Chemical Weapons:

"Sample Now, Analyse Later" (SNAL) System for the Retrospective Verification of Non-Production

1. INTRODUCTION

Verification of non-production involves inspections of chemical plants at routine random intervals or on challenge. The procedures and instrumentation used by international inspection teams have to provide, as quickly as possible, sufficient information to confirm for a given period of time the absence of certain chemicals or, in certain cases, the presence of declared chemicals used or produced in a chemical process. On the other hand, it is necessary to ensure that only the data relevant for inspection are acquired and that these data will not be evaluated to reveal commercial secrets.

Based on a concept introduced by Dr. B. Odernheimer (NBC Defence Research Establishment, Munster, Federal Republic of Germany) as the SNAL concept (Automatic Monitoring in Verification of Chemical Disarmament, Proceedings of a Workshop, 12-14 February 1987, Helsinki, Finland, pp. 44-52), a feasibility study was carried out by Dr. G. Matz (Technical University Hamburg-Harburg, Measurement Technology Department, Hamburg, Federal Republic of Germany) showing that the two crucial requirements, effectiveness and non-intrusiveness, can be adequately met in most cases. In the course of this study, a demonstration model of an automated system was developed. It is capable of storing and retrospectively analysing representative samples at trace levels. It consists of a magnetic tape recorder and a data system. It may be connected with a mobile mass spectrometer.

2. PRINCIPLE OF OPERATION

The two main steps of the verification procedure (Figure 1) are:

(2.1) storage of samples and data

(2.2) analysis of samples.

2.1 Storage of samples and data

During the production process, small representative samples out of the large quantity of chemicals produced are split off at trace levels and stored. An adequate sampling procedure allows for the taking of microgram amounts out of the production line at a suitable place and the transfer of the samples to an absorbent tape. The chemical mixture is pumped at a low rate through silicone tubing serving as a restriction. The transfer of the trace sample is by diffusion through the wall of the silicone tubing.

For the storage of the sample, a commercially available magnetic tape is used. The tape picks up the sample during the few seconds it is in contact with the silicone tubing. The amount of substance transferred to the tape is controlled by temperature and contact time.

The magnetic tape is moved in a magnetic tape recorder by a control unit in a way that enables several 1,000 samples to be stored on one tape at pre-selected time intervals.

The magnetic tape recorder is controlled by a data system that provides relevant data to specify the sample, like facility, site, declared process, date and time of sampling, etc.

Thus, with regard to toxicity non-hazardous traces of substances along with correlated data are safely stored on the same tape for later evaluation.

2.2 Analysis of samples

The samples may be analysed with an automated mass spectrometer system (MM1) that is capable of identifying the substances in question at the nanogram level. The system can either be stationed in the facility where samples are taken, or, preferably, brought in by the inspection team.

To perform the analysis, the sampler head of the MM1 is brought into contact with the tape loaded with samples, in order to heat the tape up and conduct the desorbed substances to the analyser.

The mass spectrometer is programmed to respond only to those compounds that are pre-selected. For instance, all of the CW agents listed under Schedule 1 (Art.VI CD/782) can be selectively detected and identified automatically. In case of doubtful results or suspicion of non-compliance, complete mass spectra can be displayed. Thus, the absence of CW agents or the presence of declared substances in a sample can be verified within one minute.

The search for particular samples to be analysed on contact with the probe of the analyser is performed by a data system controlling the tape recorder.

3. APPARATUS

The apparatus consists of four main components:

(3.1) sampling system

(3.2) tape recorder for sample and data storage

(3.3) data system for tape control and data transmission

(3.4) mass spectrometer for the analysis.

3.1 Sampling system

From the chemical produced on a large technical scale, a small representative quantity has to be split off. For this purpose a bypass is installed parallel to the product line. Through the bypass a flow of the chemical product is maintained by a pump at a well defined, controlled, low flow rate. Incorporated into the bypass line is a short piece of silicone tubing (length: 5 cm, diameter: 1 mm). The chemical permeates the wall of that tubing by diffusion and is transferred to the sample tape.

The sample tape is positioned at a distance of 2 mm from the silicone tubing. For sample transfer the tape is pneumatically pressed against the silicone tubing by a heated stamp (180°C). At this temperature a few micrograms of sample can diffuse through the silicone wall into the tape material. After ca. 20 seconds the stamp is moved back, the tape material cools down quickly and the sample is like "frozen" at room temperature onto the tape.

The tape used for sample storage is a commercially available magnetic tape (length: 540 m), which during the sampling procedure is cleaned by heat and cleared of interferent background.

One sample requires 20 cm of tape, 5 cm are needed for the stored chemical and 15 cm for the correlated data.

The completely loaded tape with up to 2,500 individual samples can be sealed in a cassette and safely shipped.

3.2 Tape recorder for sample and data storage

For the storage of samples and data, a commercially available tape recorder, modified for remote control and data acquisition, is used. It is controlled by a data system, writes the data like site, date, time and a comment on the tape, stops the tape for sampling and transports the samples by winding the tape.

3.3 Data system for tape control and data transmission

The tape recorder and the transmission of data are controlled by a personal computer (used during the feasibility study: COMPAQ III, portable, AT-compatible) with dedicated interfaces and programs. Using a menu-controlled program, all parameters relevant for the operation of the apparatus are put in via a keyboard. Parts of the program are dedicated to the tape control for sampling, or to the tape control for analysis, for the input of parameters, like bake-out time, contact time, name of site, facility, and a comment. Date and time are transmitted from the internal clock of the computer.

Special interfaces for tape control and sampling control were developed to convert the digital data into audio-signals for the recording head of the tape recorder.

Once the parameters for the sample storage are put in, all steps of the storage procedure are executed automatically after START order.

For analysis, the piece of the tape carrying the sample must be positioned in front of the sampler head of the mass spectrometer. To perform this, one part of the program was developed to search for samples stored at a particular date and time. Alternatively, random tests can be carried out with a few samples selected by a special program.

3.4 Mass spectrometer for analysis

The samples are analysed by use of the automated mobile mass spectrometer system MM1 (Bruker-Franzen). Controlled by the data system, the heated sampler head of this instrument is brought into contact with the sample-loaded magnetic tape. For a moment, the tape is heated to 200°C, causing the chemical substance to be desorbed from the tape and sucked to the gas inlet of the mass spectrometer. The mass spectrometer is capable of positively identifying very small amounts of chemical agents and of confirming the absence of certain agents down to the low nanogram level. This can be done either using a selected ion monitoring program with a few characteristic fragment ions, or by evaluation of complete mass spectra.

4. DISCUSSION OF RESULTS

Series of experiments were carried out with two non-toxic organic substances, dimethyl methylphosphonate (DMMP) and thiodiglycol (TDG), both of some relevancy for the verification problem as precursors. The mass spectral data selected for the automatic analysis of DMMP and TDG and their mass spectra are shown in Figures 2 and 3.

The results of a series of measurements shown in Figures 4-8 prove that for both substances there is no substantial loss of sample discernible over a time period of almost four months, between the sampling on 4 January and last analysis on 28 April 1988. It may be concluded that sample storage times of one year are achievable.

In Figure 4 the good match of the traces of the four selected ions typical for DMMP, measured within a limited analysis time of 60 seconds, shows that there is a high probability that DMMP is present in the sample. On the right side the traces of selected TDG ions are shown, acquired from the sample during same measurement. The curves show significant deviation of the ions from the relative abundances typical for TDG, clearly indicating that this agent is not present in the sample.

Volatile, unpolar substances, such as the solvent tetrachloroethene, can also be stored on the tape for a limited time without any additional cooling, as shown in Figure 9. Here the storage time was 1.5 months.

If wanted, an analysis can be repeated several times with the sample spot to confirm previous results. In case of doubt, the whole tape can be re-evaluated. Figure 10 shows the signal traces of DMMP measured up to 20 times from the same spot on the tape.

Figure 11 proves that there is no spreading of significant portions of the stored sample by diffusion into other windings of the tape. An adjacent winding being exposed by close contact with a sample spot of DMMP for one month does not contain any additional contamination above the normal level of chemical background on the tape, and no DMMP is identified.

5. SUMMARY AND CONCLUSION

The study has shown so far that the storage of large numbers of samples of organic chemicals in trace amounts on a magnetic tape, along with relevant data, is feasible. Furthermore, these samples can be safely analysed for the presence of pre-selected agents after long periods of time using automated analysis procedures.

Although only a few agents have been investigated, no basic problems have to be anticipated with regard to the physical and chemical properties of most of the CW agents and related compounds. Even at high sampling rates of one sample per hour, a sampling period of 100 days is achievable without changing the tape.

The investigated concept of trace level sampling for retrospective analysis meets the requirements of effectiveness, because it covers the majority of organic chemical products. Using mass spectrometry as analytical method, the inspection procedure can be tailored in terms of sensitivity and specificity, to be efficient for inspection purposes on the one hand and acceptable to industry on the other. The method is extremely fast in sample evaluation, applicable on-site in most flexible ways, and adaptable to the specific requirements of a country, facility or chemical process. Retrospective evaluation of a past process can be performed with high time resolution, practically without time gaps, and finally, the concept leaves little room for tampering.

The concept meets the requirements of non-intrusiveness as well, because only trace quantities are stored. The time for the analysis can be limited in a way that allows only negative verification of certain agents or positive identification of declared main constituents of a technical product. The evaluation procedures can be standardized and automated to the extent that no confidential information is revealed during the analysis. A sample tape can be quickly evaluated during the on-site inspection. The whole procedure can be carried out in the presence of representatives of the company or authority responsible for the facility.

As further steps, practical tests will have to be carried out in a typical facility and carefully evaluated in order to specify requirements for the development of advanced instrumentation.

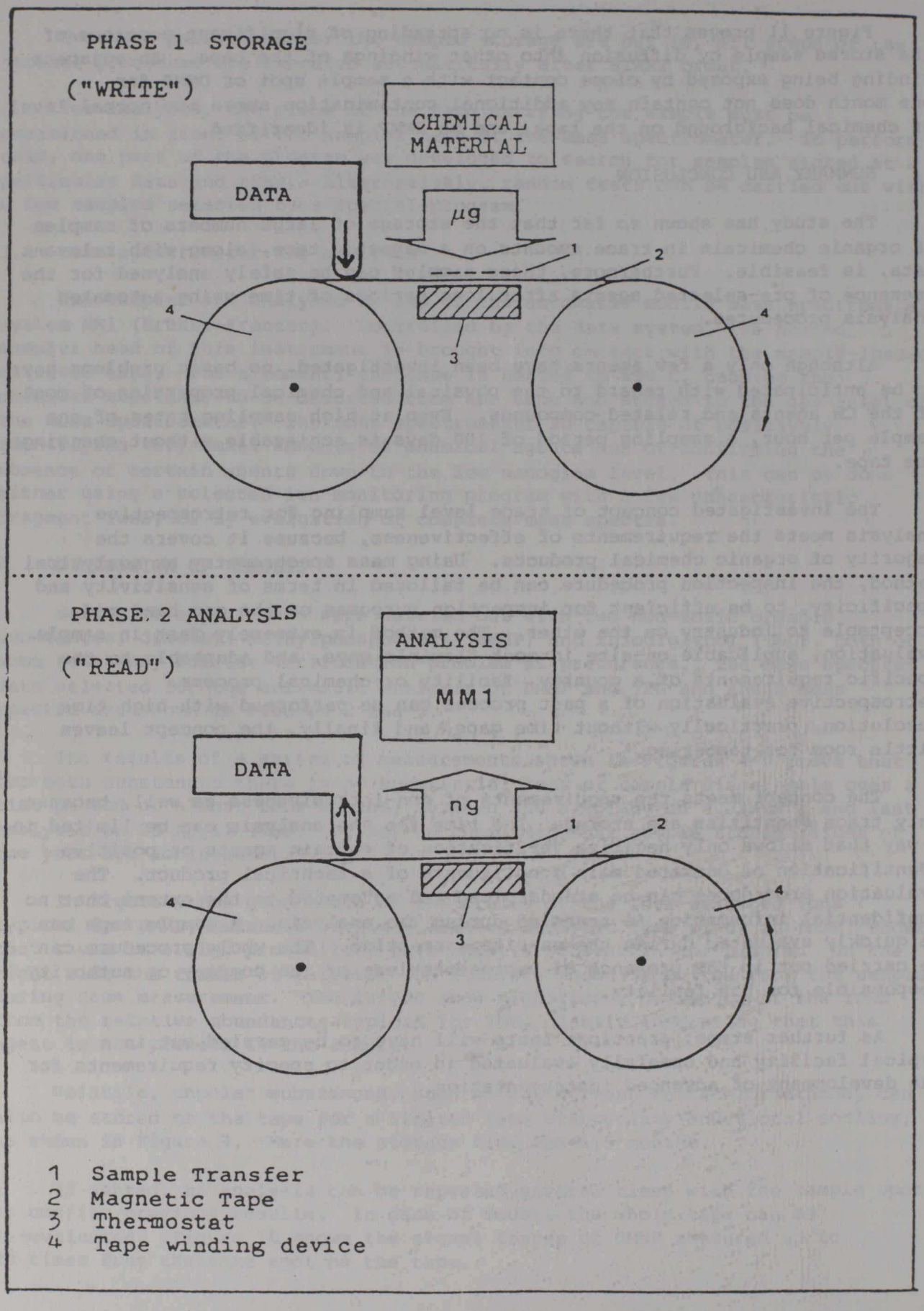


Fig.1 Principle of the SNAL concept

(SNAL) = Sample Now, Analyse Later)

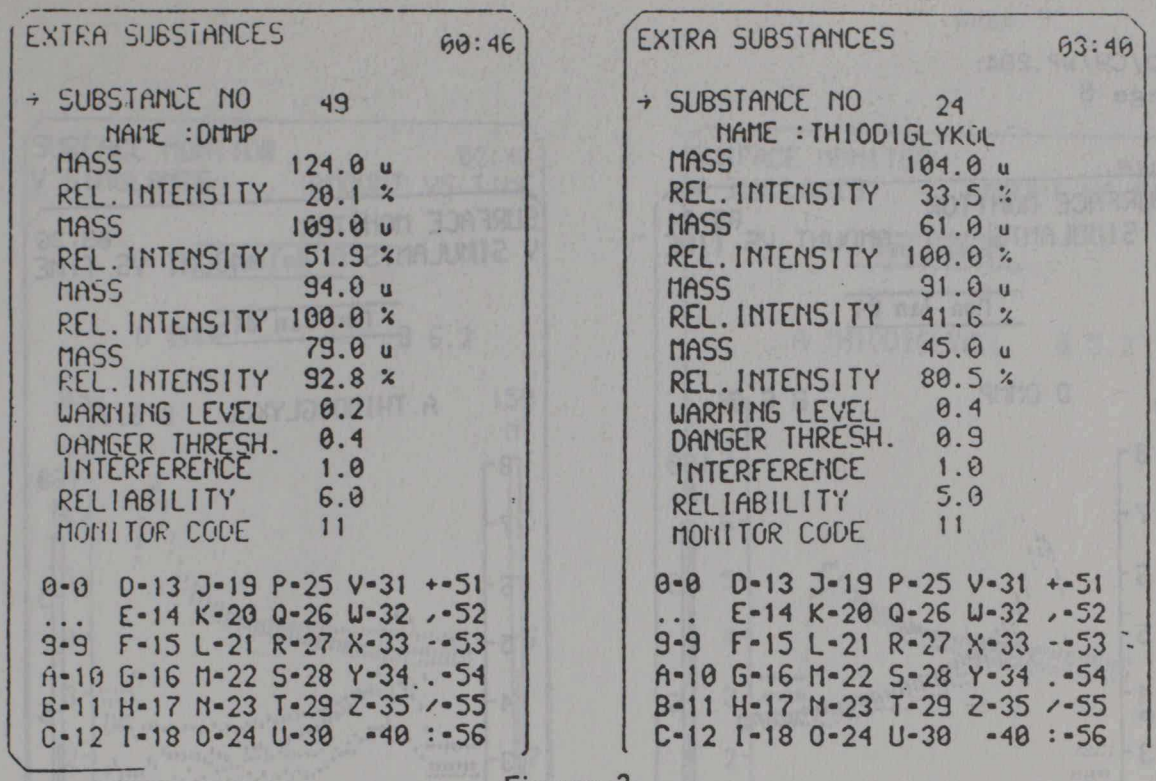


Figure 2

Substance data of DMMP and thiodiglykol used for mass spectrometer analysis. On the basis of four masses only, these substances can be positively identified.

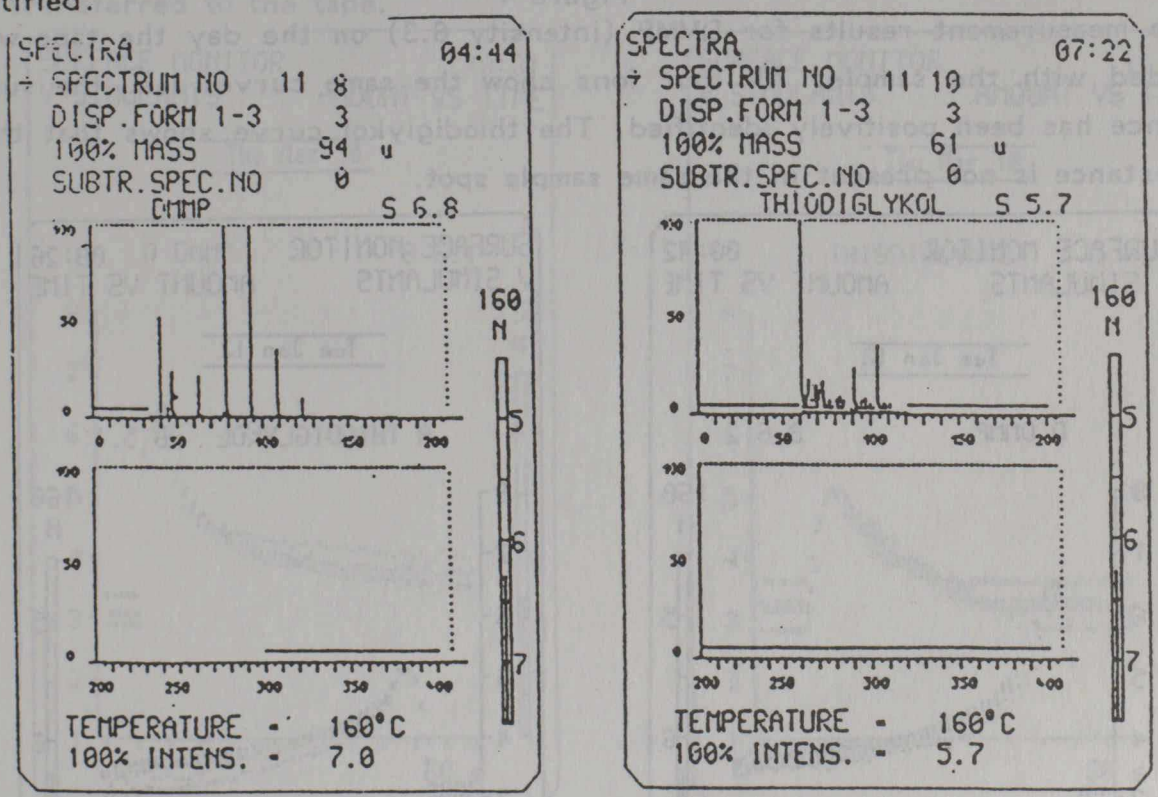


Figure 3

The mass spectra of DMMP and thiodiglykol from which the four masses to be measured are selected. Mass spectra analysis can be chosen as an alternative to four-ion analysis.

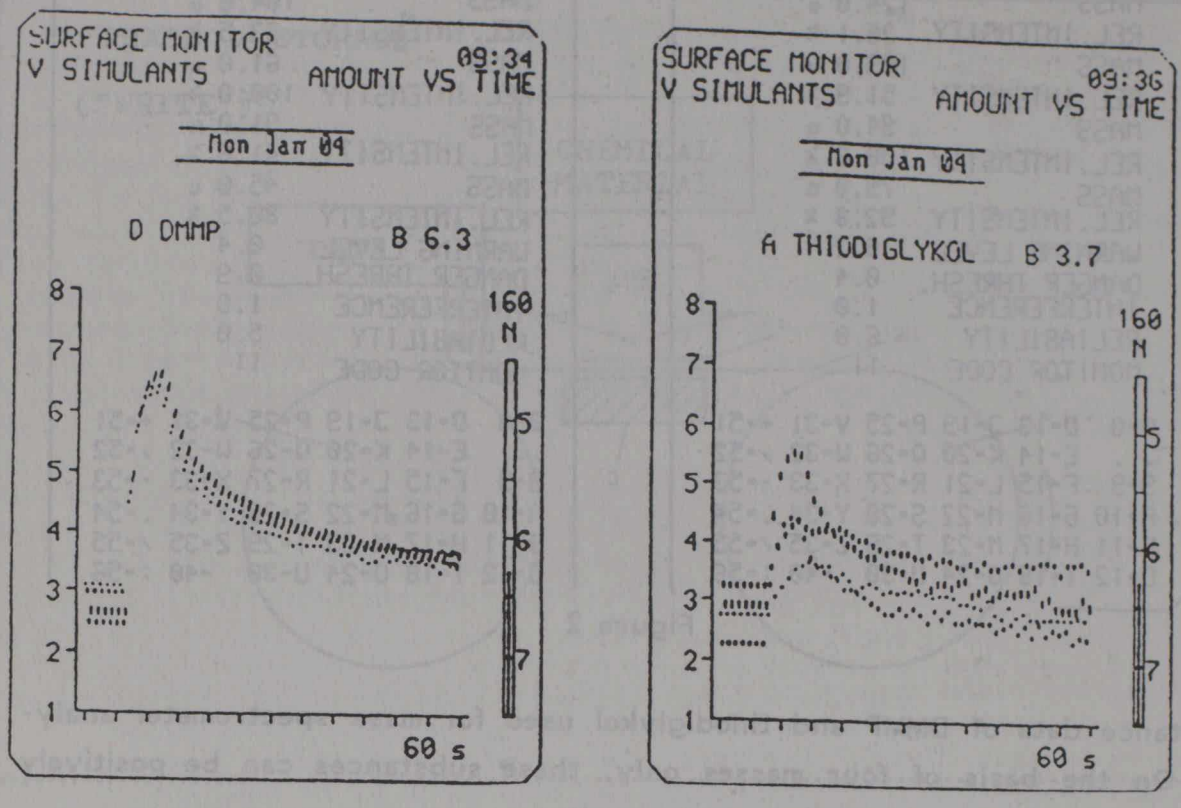


Figure 4

The measurement results for DMMP (intensity 6.3) on the day the tape was loaded with the sample. All four ions show the same curve, i.e. the substance has been positively identified. The thiodiglykol curve shows that this substance is not present in the same sample spot.

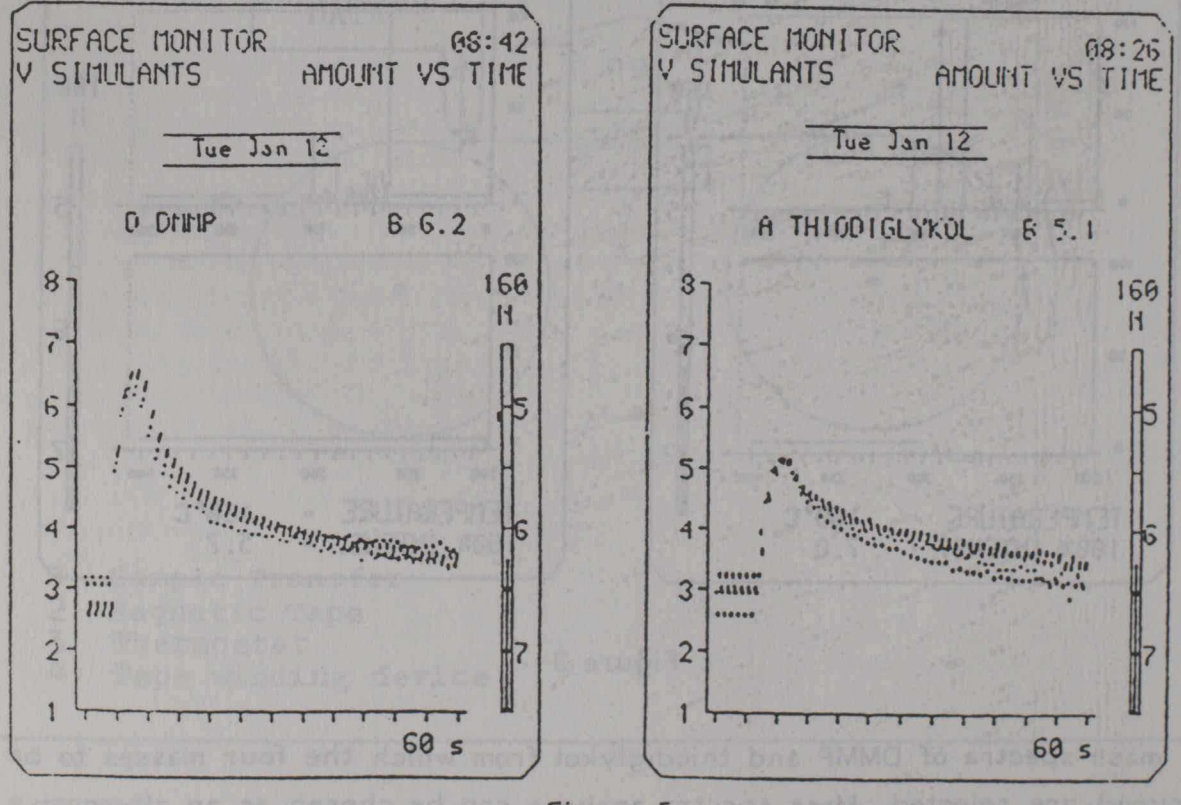


Figure 5

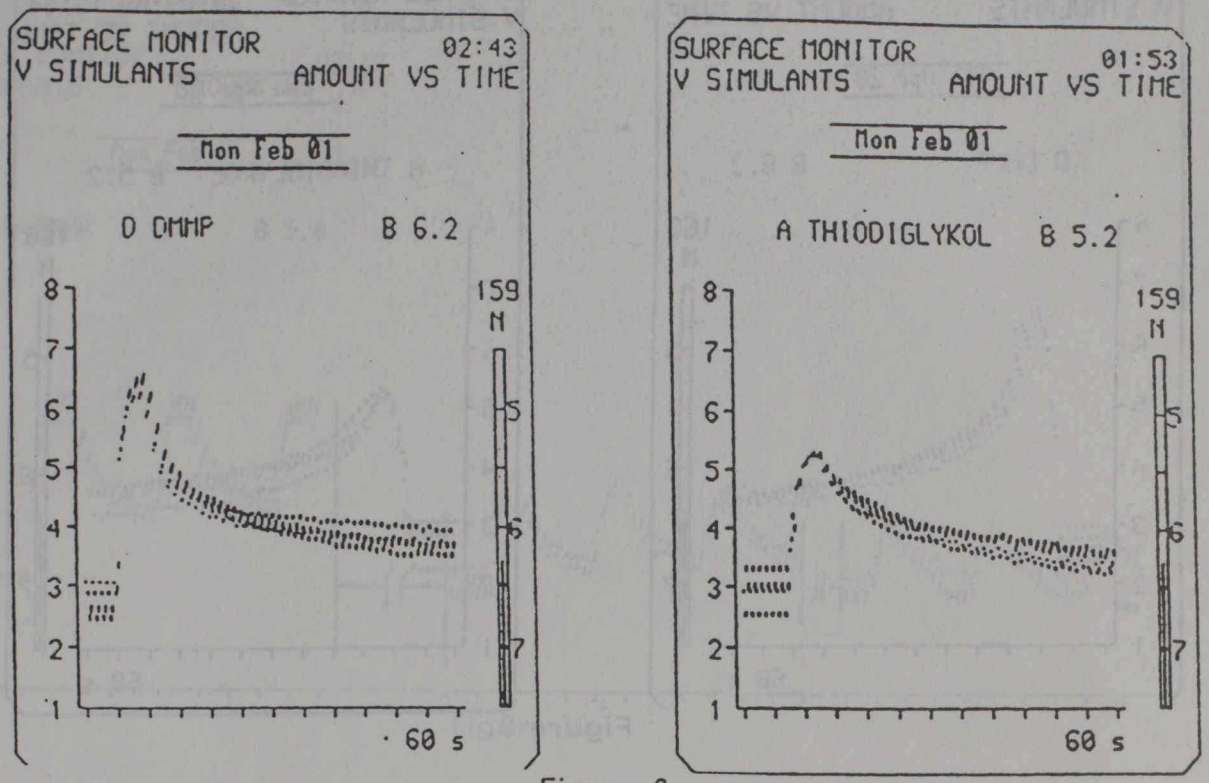


Figure 6

The measurement results approximately one month after the sample was transferred to the tape.

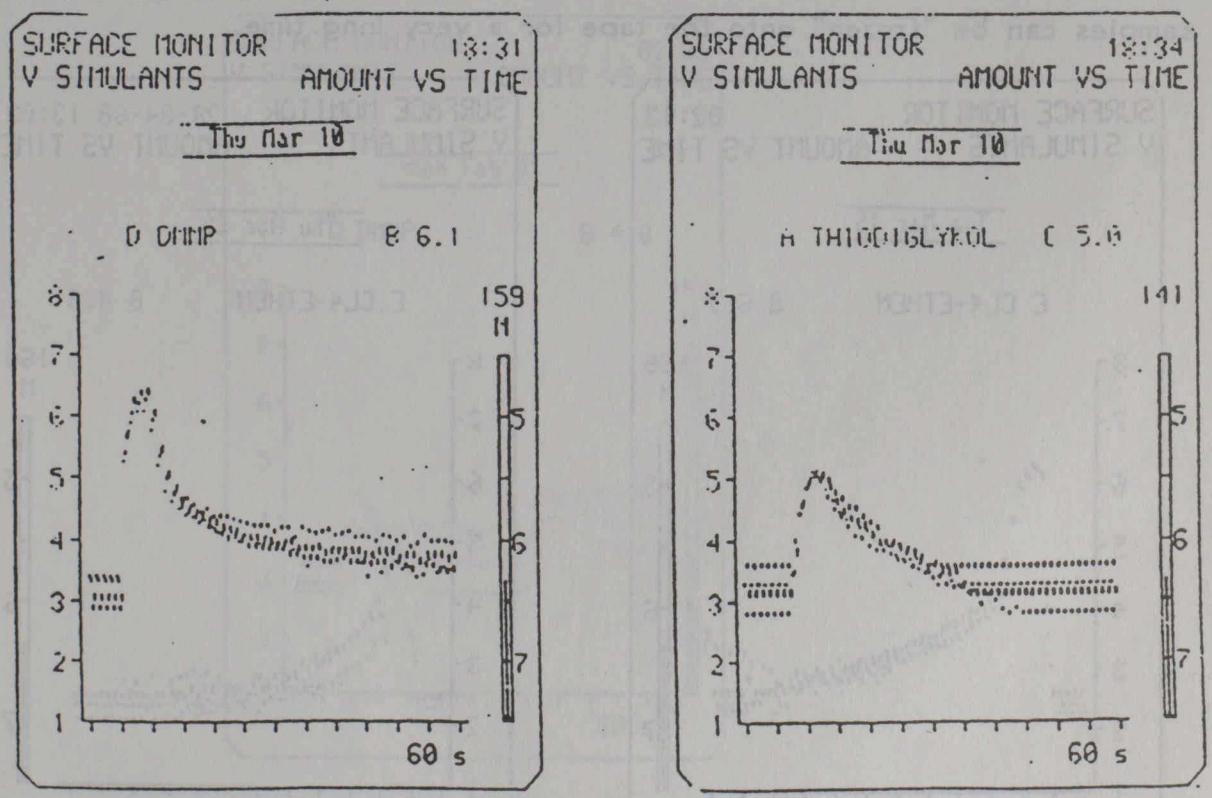


Figure 7

The measurement results two months after the sample was transferred to the tape.

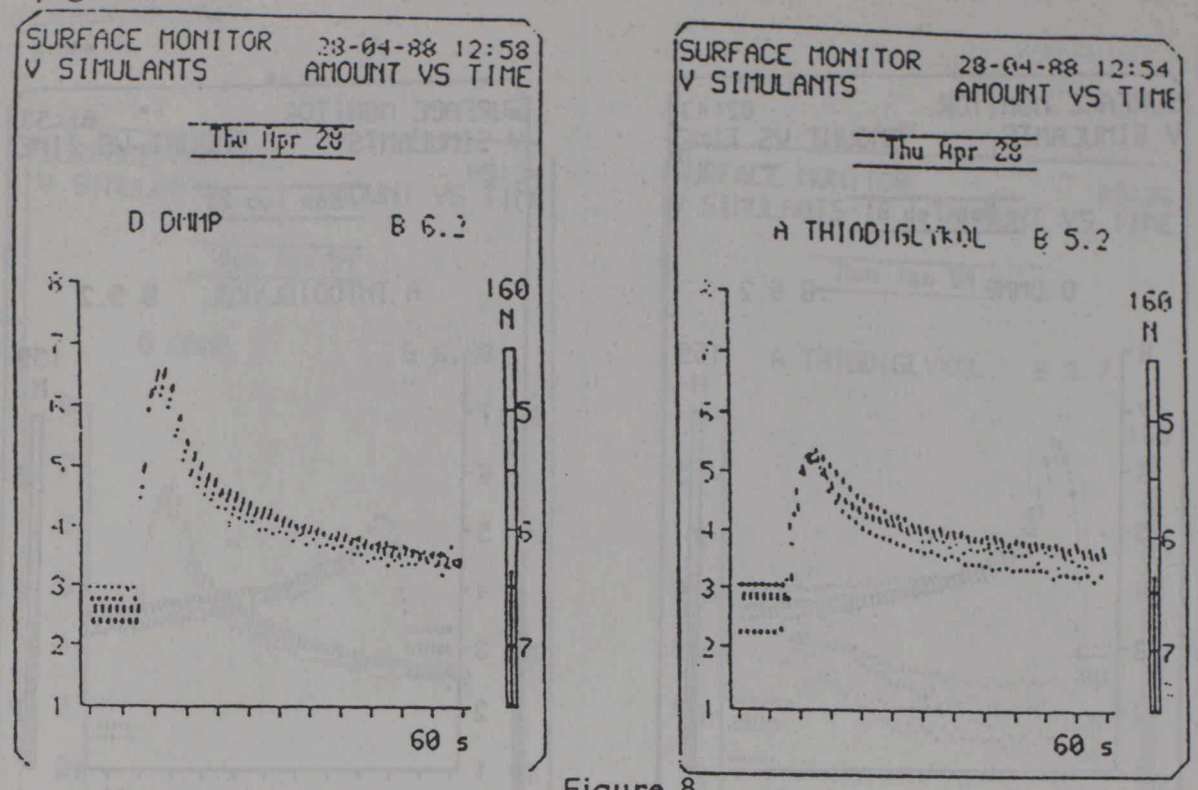


Figure 8

The measurement results four months after the sample was transferred to the tape. After four months no substantial loss of sample is discernible, i.e. the samples can be "frozen" onto the tape for a very long time.

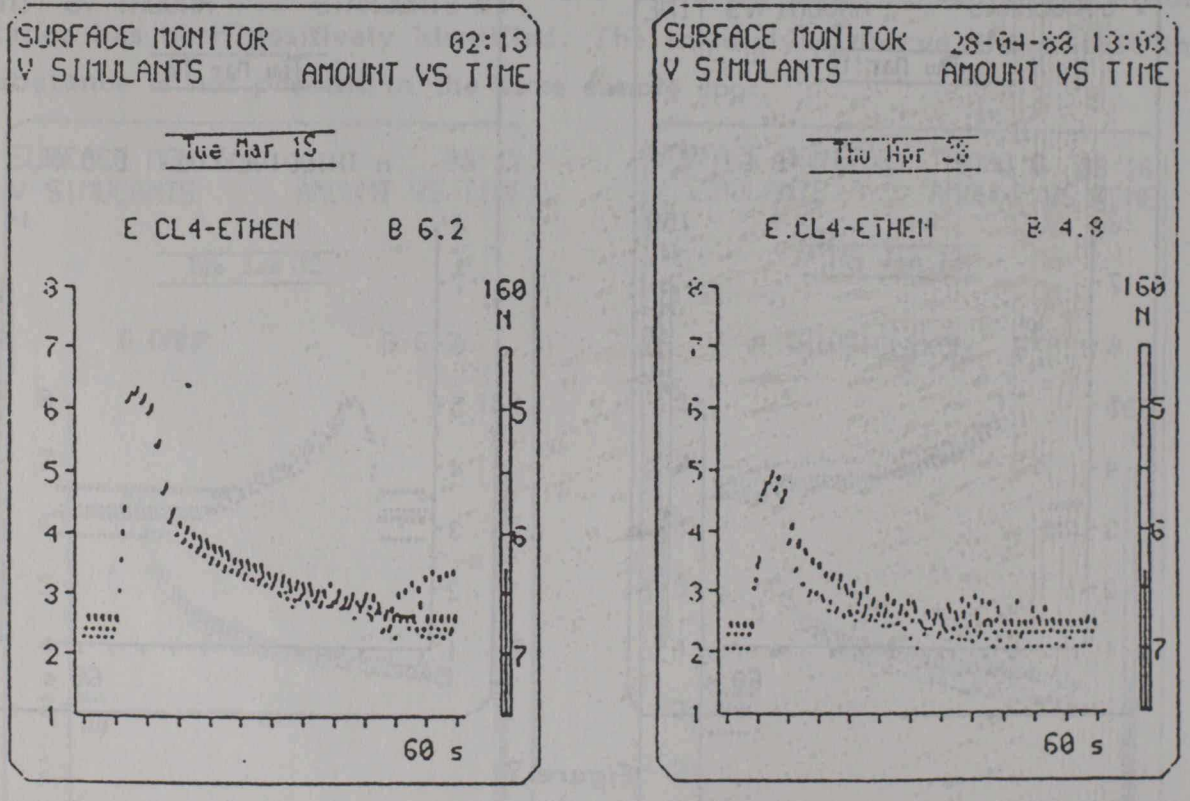


Figure 9

A volatile solvent (tetrachlorethen) can be stored on the tape for months (example: 15 March to 28 April) and be positively identified.

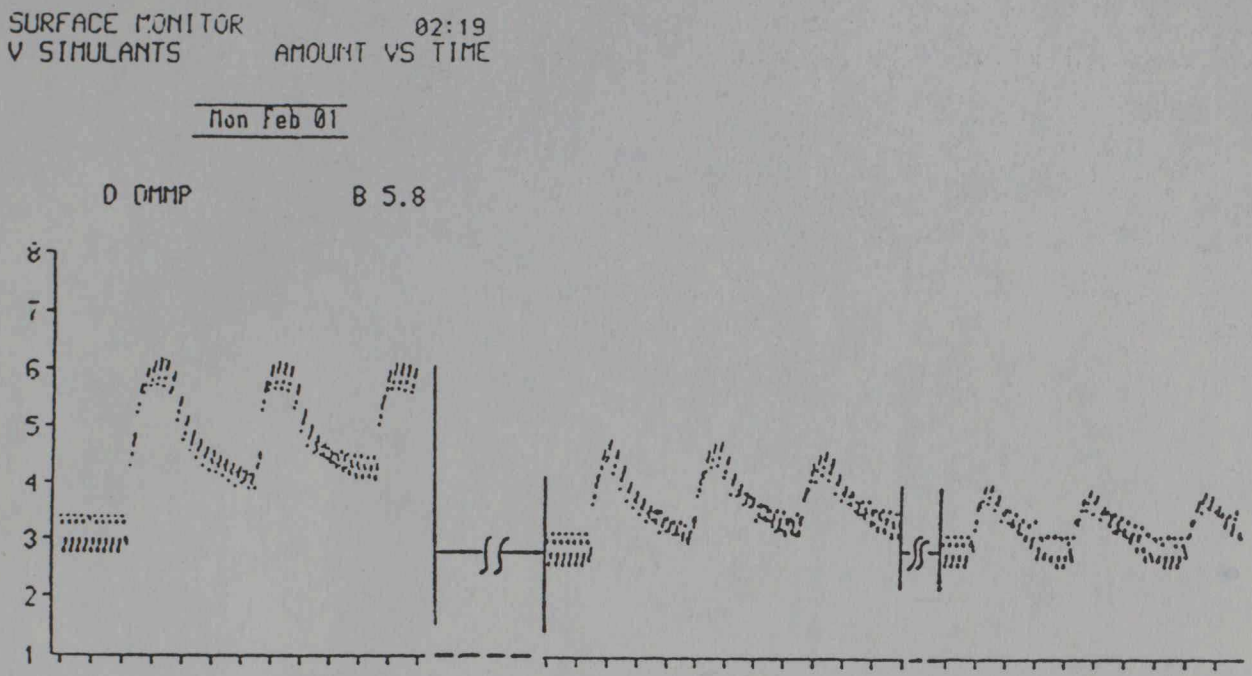


Figure 10

Repeated analysis of the same sample spot (approximately 20 times). In case of doubt the analysis can be repeated.

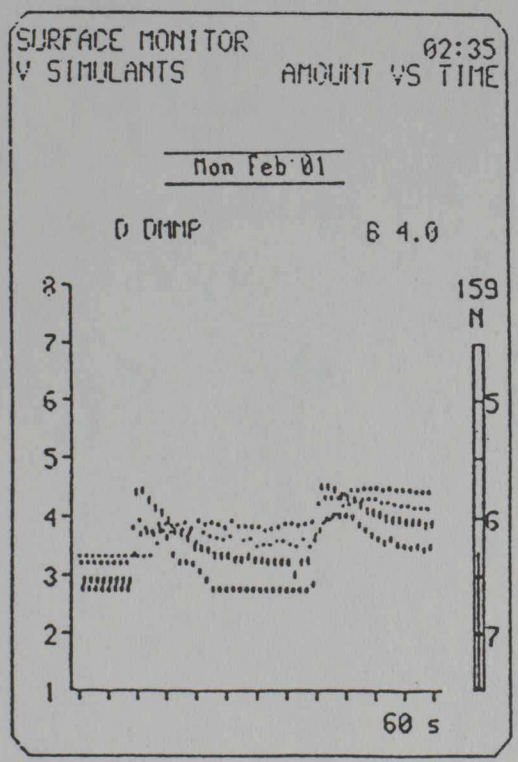
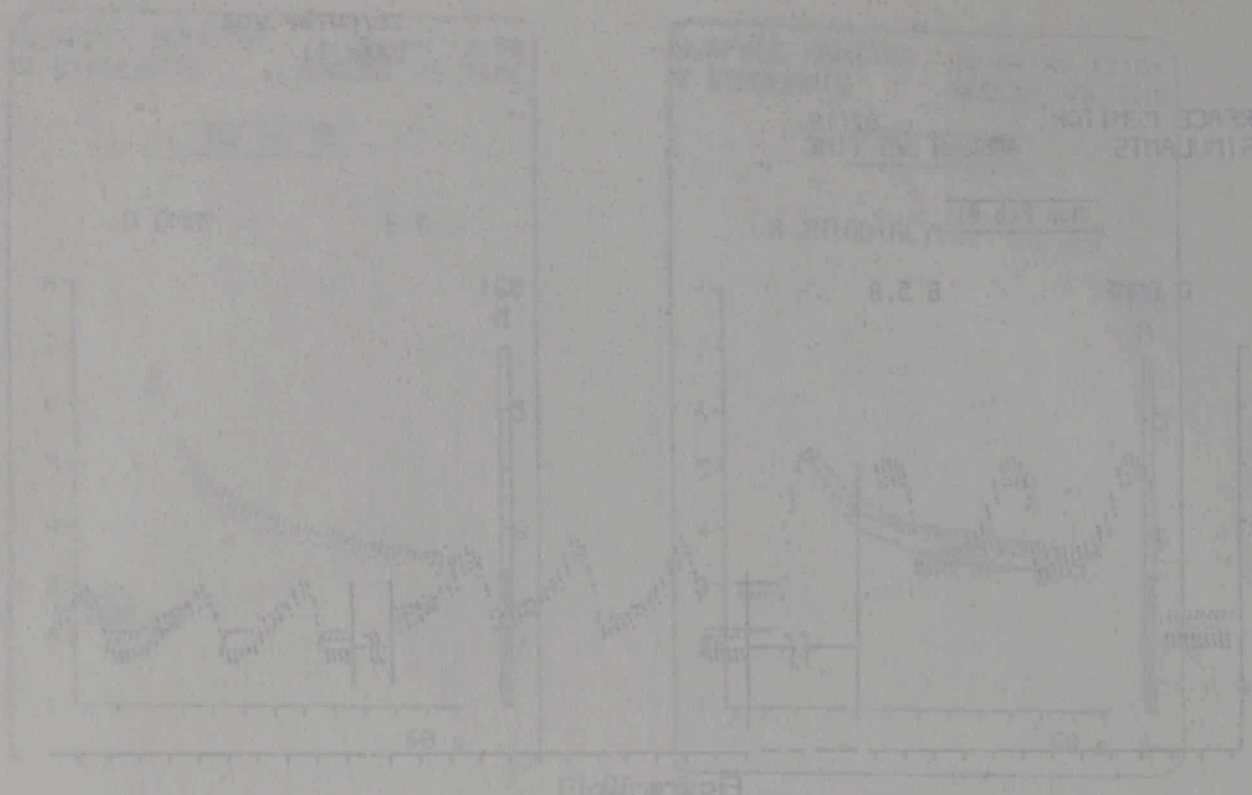


Figure 11

Analysis of a piece of tape one winding below the tape section to which the sample was transferred: the sample cannot be identified, i.e. it did not diffuse into lower-lying windings and therefore does not adulterate other samples.



USA	CD/CW/WP.205	Destruction of Chemical Weapons Production Facilities	Also issued as CD/849 10 Aug. 88

NOT REPRODUCED
(See WP volume)

CONFERENCE ON DISARMAMENT

CD/CW/WP.206
10 August 1988

Original: ENGLISH

Ad hoc Committee on Chemical Weapons

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Provision of Data relevant to the Chemical Weapons Convention

1. In document CD/828 of 12 April 1988 the Federal Republic of Germany proposed a framework for multilateral data exchange on a voluntary basis prior to signature of the Convention, including information on the number of facilities in national civil chemical industries that might be relevant to the Convention. Legislation does not exist in the United Kingdom to compel industry to provide information. However the United Kingdom Chemical Industries Association has provided information available to it concerning the production of Schedule [1], [2] and [3] chemicals by companies in the civil chemical industry which are members of the Association. We believe this information is sufficiently accurate to assist in making preliminary estimates of the resources that need to be available to the Technical Secretariat in order to conduct verification of civil industry under Article VI. The data has been compiled on the basis of the provisional lists for the Schedules presented in CD/831 of 20 April 1988. It updates information previously tabled for the United Kingdom in the paper CD/CW/WP.86 of 10 August 1984.

2. The number of companies producing Schedule [1], [2] and [3] chemicals in the United Kingdom is relatively small. One company produces a Schedule [1] chemical (a nitrogen mustard) in quantities of 1-2 kg per year for medical use. Two tables are annexed giving details of the production of Schedule [2] and [3] chemicals. No thresholds have been used in this initial survey but further work is being done to collect data on quantities. The information in these tables may be summarized as follows:

(i) There are 4 companies producing Schedule [2] chemicals;

(ii) There are 5 companies producing Schedule [3] chemicals.

3. The United Kingdom hopes that other delegations will be able to make similar information available.

TABLE 1

COMPANIES PRODUCING SCHEDULE [2] CHEMICALS IN THE UNITED KINGDOM

SCHEDULE [2] CHEMICALS	No. of producer companies */
Chemicals containing one P-methyl, P-ethyl or P-propyl (normal or iso) bond	3
N,N-Dialkylphosphoramidic dihalides	-
Dialkyl N,N-Dialkylphosphoramidates	-
Arsenic trichloride 7784-34-1	1
2,2-Diphenyl-2-hydroxyacetic acid 76-93-7	1
Quinuclidin-3-ol 1619-34-7	-
N,N-Diisopropylaminoethyl-2-chloride 96-79-7	-
N,N-Diisopropylaminoethan-2-ol 96-80-0	1
N,N-Diisopropylaminoethane-2-thiol 5842-07-9	-

*/ Four companies are involved.

TABLE 2

COMPANIES PRODUCING SCHEDULE [3] CHEMICALS IN THE UNITED KINGDOM

SCHEDULE [3] CHEMICALS	No. of producer companies */
Phosgene 75-44-5	1
Cyanogen Chloride 506-77-4	1
Hydrogen cyanide 74-90-8	-
Trichloronitromethane 76-06-2	-
Phosphorus oxychloride 10025-87-3	3
Phosphorus trichloride 7719-12-2	1
Trimethyl phospite 121-45-9	-
Triethyl phosphite 122-52-1	1
Dimethyl phosphite 868-85-9	1
Diethyl phosphite 762-04-9	1
Sulphur monochloride 19925-67-9	-
Sulphur dichloride 19545-99-0	-

*/ Five companies are involved.

CONFERENCE ON DISARMAMENT

CD/CW/WP.207
16 August 1988

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

FEDERAL REPUBLIC OF GERMANY

Provision of data relevant to the Chemical Weapons Convention

The multilateral exchange of data prior to the signing of a convention on chemical weapons is a prerequisite for drafting an effective convention and ensuring its early functioning. In addition, such an exchange constitutes an important confidence building measure which contributes to creating an atmosphere of trust and assurance by providing increased transparency. It should therefore facilitate and promote the negotiations concerning a total ban on chemical weapons.

In CD/828 of 12 April 1988 a format was proposed for the multilateral provision of data. In accordance with that format the data for the Federal Republic of Germany are given below.

The data on the chemical industry are based on information voluntarily provided by chemical companies and compiled by the Chemical Industry Association of the Federal Republic of Germany. Completeness cannot be guaranteed. However, we are convinced that the data are sufficient for fulfilling the purpose of the data exchange: to lay a foundation for the discussions on the necessary scope of the inspectorate in view of its functions under Article VI of the draft convention.

The data reflect the situation at the beginning of 1988. They are submitted according to the tentatively agreed lists in the Annexes to Article VI in CD/831 and are based on the following thresholds: 1 ton/year for the production, processing and consumption of Schedule [2] substances and 30 tons/year for the production, processing and consumption of Schedule [3] substances.

The information given under items 2 and 3 below is subject to change depending on market conditions and technological developments.

Type of Data		Answer
1.	Presence of CW on own territory	Yes
	Possession of CW on Territory of another State	No
2.	Aggregate number of facilities for the production and storage of CW, and for production, processing and consumption of chemicals on Schedules [1], [2], [3]	52 */
3.	- Types and names of CW agents produced	Not applicable The Federal Republic of Germany does not produce or possess chemical weapons
	- Types of CW munitions stored; CW agents in bulk	Not applicable
	- Names of chemicals on Schedules [1], [2] and [3] produced in the chemical industry	Chemicals containing one P-methyl, P-ethyl, or P-propyl (normal or iso) bond (3 products) N,N-Diisopropyl aminoethan-2-01 (96-80-0) Phosgene (75-44-5) Cyanogen chloride (506-77-4) Hydrogen cyanide (74-90-8) Phosphorus oxychloride (10025-87-3) Phosphorus trichloride (7719-12-2)

*/ There is no facility producing, processing or consuming Schedule [1] chemicals. Processors and consumers of Schedule [2] and [3] substances are counted more than once in case they process or consume more than one chemical listed in those two schedules.

	Di- and trimethyl/ethyl esters of Phosphorus (P III) acid: - Trimethyl phosphite (121-45-9) - Triethyl phosphite (122-52-1) - Dimethyl phospite (868-85-9) - Diethyl phosphite (762-04-9) Sulphur monochloride (19925-67-9) Sulphur dichloride (19545-99-0)
4. Plans and methods for the destruction of CW including the number of facilities and the anticipated length of their operation during the 10 year destruction period	Not applicable

CONFERENCE ON DISARMAMENT

CD/CW/WP.208
26 August 1988

Original: ENGLISH

Ad Hoc Committee on Chemical Weapons

GERMAN DEMOCRATIC REPUBLIC

Working Paper

Chemical Weapons Convention

ON-SITE INSPECTION ON CHALLENGE

Outline of a manual for the activities of inspectors conducting inspections under Article IX of the Convention

I

In CD/CW/WP.198 it has been proposed to supplement the Guidelines on the International Inspectorate, as contained in CD/831, by special provisions applicable to challenge inspections. The elaboration of guidelines for challenge inspection would, at the same time, serve to concretize the terms and concepts included in the paper "On-site inspections on challenge" (CD/831, p. 126, appendix II).

Besides these guidelines, the problem of providing additional help for inspectors carrying out inspections under Article IX has been discussed. In contrast to the guidelines referred to above, more detailed methods used by inspectors could be dealt with in the form of a manual containing procedural suggestions. While not being of a binding nature the approaches and procedures set forth in such a manual would add stability and high professional equal standards to the relevant activities of inspectors.

The aforementioned manual would have to be elaborated under the responsibility of the Director-General of the Technical Secretariat. Part of its possible content is reflected in the following outline:

II

1. General observations

(a) The objective of inspection activities of International Inspectors under Article IX is to clarify doubts about compliance with the Convention.

The special task of the inspection team is to establish facts allowing a conclusion whether or not the suspected non-compliance occurred at the site indicated in the request.

(b) The inspection team shall devote all its efforts to document such evidence and other material that permits a conclusion that beyond any reasonable doubt:

(i) the suspected activities have not taken place at the site; or

(ii) the suspected activities have taken place at the site.

However, its findings might also be of a nature that will make it impossible to conclude whether the suspected activities have taken place or not.

(c) Inspectors must not draw any conclusions from their findings concerning compliance. Yet they shall be able to assess the objective impact of evidence for such a conclusion.

In order to facilitate this assessment, the following types of evidence can be defined:

(i) conclusive evidence, i.e. evidence that by its nature allows to reach a conclusion as under (b) (i) or (ii);

(ii) supportive evidence, i.e. evidence that can be supportive in arriving at a conclusion as under (b) (i) or (ii). However, for lack of conclusive evidence on the same subject, it would not suffice for such a conclusion.

(d) The inspection team is under the obligation to secure, document and include in its report all evidence, conclusive and supportive alike, which is related to the objective of its inspection.

Information not related to the inspection purpose is to be ignored, not to be documented or otherwise mentioned in the inspection record, except there is an expressive wish of the inspected State party (see also under (e) (ii)).

(e) The inspection team has to meet two objectives:

To clarify the matter as complete and reliable as possible so that a conclusion can be drawn as set out under (b) (i) or (ii), and, at the same time, to conduct the inspection in the least intrusive manner as possible. That means permanent assessment of the objective impact of the documented evidence, of its character and completeness.

To arrive at reliable results in this respect, the head of the inspection team will, in certain cases, be well advised to consult closely with the

representative of the requesting State and the representative of the requested State before he takes final decisions concerning the termination or continuation of inspection activities.

This could relate, e.g., to the following problems:

(i) In case the inspection team comes across supportive evidence, without being in the position to document conclusive evidence, the head of the inspection team might consider further steps he intends to undertake in order to provide clarity, whether this supportive evidence is linked with activities suspected by the request or not. He might likewise ask the representative of the requested State party to give an explanation concerning the origin of the supportive evidence and advise him of the facts provision of which would be necessary to make this explanation unquestionable;

(ii) The absence of any conclusive evidence can be sufficient for the fulfilment of the inspection task because it proves the compliance with the Convention. However, the head of the inspection team might also consult with the representative of the two States parties whether further steps might be necessary. He could positively respond to the wish of the inspected State party to record evidence not related with the suspected activity in order to give a further explanation of the information which gave rise to the suspicion.
In any such case regarding the documentation of non-related evidence, the head of the inspection team will record the expressive wish of the inspected State party to do so.

2. General cases

(a) Upon arrival at the site, the head of the inspection team will request a briefing about the nature of the facility and of the activities carried out there. This statement should be given by the operator or person in command, whatever applicable, of the inspected facility, and be supported by appropriate documentation, e.g. maps. On this foundation and based on the request for the inspection, the head of the inspection team will decide on the selection of the parts of the facility to be inspected.

(b) Before the selection, an initial visual inspection of the facility area will be made in order to detect the features which might be indicative of the suspected activities, such as:

(i) the presence of sensors for toxic chemicals;

(ii) the presence of decontamination equipment;

(iii) the presence of special medical supplies.

These features can primarily serve to guide the selection of those facility parts which are to be inspected. Their presence does not constitute conclusive evidence.

(c) After having selected the facility parts for inspection, the head of the inspection team will request access to the facility parts he has selected for close inspection. If access is given without reference to a secret nature of the object or its content, the inspection team performs a visual inspection and decides whether further verification methods are necessary.

3. Special cases

(a) The requested State party holds the view that in an exceptional case access to a location or further intrusions into certain localities of the site under inspection will jeopardize security interests and proposes arrangements alternative to a full and comprehensive access. The head of the inspection team should advise the two representatives on what evidence, in his view, has yet to be documented in order to give a conclusive report; whether the alternative measures proposed might, from its character, be expected to produce such evidence; whether in the absence of an agreement on the proposed alternative measures specific steps of protecting sensitive equipment or information would meet the concerns of the requested State party. Such steps could, e.g., be the use of shields and covers serving as a means to protect specific equipment or installations against unduly detailed observations.

(b) If further intrusion is deemed necessary, recording of information shall be restricted to conclusive evidence. Intrusion shall be performed by a stepwise increase of the level of intrusion.

(c) When inspecting areas declared as secret or to be a secret, the number of intruding inspectors shall be restricted to two, including the head of the inspection team. The other inspector will be selected by the head of the inspection team.

(d) Once the head of the inspection team is convinced that the facts he has seen would suffice to reach a conclusion to the effect that the suspected activities have not taken place, intrusion shall be terminated.

This general principle should be of special importance in the cases described in this chapter.

4. Approaches for the inspection of suspected production of chemical weapons

4.1 Verification principles

(a) The verification principles applicable to verify such a suspicion are:

(i) in case of a suspicion of production of chemical weapons via clandestine production of chemicals listed in Schedule [1] of the Convention: Detection of anomalies;

(ii) in case of a suspicion of production of chemical weapons via clandestine diversion of chemicals not listed in Schedule [1] of the Convention: Combination of anomaly detection and material balance verification as appropriate.

(b) An anomaly of the nature of conclusive evidence is:

(i) the confirmed positive identification of a chemical listed in Schedule [1] of the Convention, except there is a proven statement that the inspected facility is entitled, under the provisions of Article VI of the Convention, to handle these materials;

(ii) the encounter of weapons components of chemical weapons as defined in Article II of the Convention.

(c) An anomaly of the nature of supportive evidence will be any condition encountered during the inspection which might be the result of clandestine chemical weapons production, which in the absence of any explanation for its existence supported by facts, does not allow to reach a conclusion on the validity or invalidity of the allegation. Such anomalies may, inter alia, be:

(i) the detection of a difference in a material balance of a production verified during the inspection bigger than the significant quantity as defined in ... without the actual encountering of chemical weapons;

(ii) the presence of special equipment, installations or design features at the facility which the inspection team considers indicative of the suspected activities, such as the presence of unusual numbers of chemical sensors, high containment features, decontamination equipment, special waste treatment, installations or others;

(iii) the detection of unexpected medical findings which make exposure to Schedule [1] chemicals highly probable.

4.2. Verification methods

(a) The following methods may, inter alia, be applied during the inspection, either isolated or in combination, as decided by the head of the inspection team, to detect and preserve evidence relevant to the suspected activities:

(i) sampling and analysis from feed material stocks, final and intermediate products, or process media;

(ii) material balance verification, including book auditing and material trail analysis;

(iii) visual inspection for the detection of unusual design features;

(iv) sampling and analysis of body fluid samples of facility personnel selected by the inspection team to detect pathological changes which might be attributable to exposure with chemicals used for chemical-weapons purposes;

(v) investigation of medical records of facility personnel;

(vi) interviewing personnel of the inspected facility selected by the inspection team.

(b) Verification methods shall be applied in such a way as to exclude possibilities:

(i) to impede with future legitimate activities at the inspected facility;

(ii) to disable unduly installations or equipment at the inspected facility;

(iii) to cause hazards to the personnel of the inspection team or of the inspected facility as well as the population outside the facility;

(iv) to disclose information not relevant to the inspection aim.

4.3. Special procedures for sample taking, sample handling and analysis to detect Schedule [1] chemicals

(a) Samples will be taken by the facility operator or by somebody mandated by him by order of the head of the inspection team, and under his supervision.

(b) Sample handling and procession will be performed according to the standards of the Technical Secretariat as laid down (e.g., in such Technical Standards as: see the 1988 "Blue Book" D.1.A.).

(c) To minimize the access to potentially confidential information on precise sample composition, it is recommended to split samples into four aliquot parts:

(i) The first sample is used for screening analysis. If screening analysis returns a negative signal for all chemicals listed in Schedule [1], the remaining aliquots shall be returned to the facility operator. If screening analysis returns one or more positive signals, the remaining samples shall be distributed as follows:

(ii) The second sample shall be used by the inspection team for additional analysis on the spot using a sensitive identification method;

(iii) If analysis on the spot returned a positive identification of a chemical listed in Schedule [1], the third sample shall be preserved and properly marked for later transfer to the laboratory of the Technical Secretariat for confirmation analysis. If additional analysis does not return a positive identification of a Schedule [1] chemical, this sample has to be destroyed or returned.

(iv) The fourth sample shall be handed over to the representative of the inspected State party for reference purposes.

(d) Screening analysis is performed by the inspection team using group-sensitive high-sensitivity negative-proof techniques in accordance with the standardized analytical techniques of the Technical Secretariat, as listed ... (e.g., in such Technical Standards as: see the 1988 "Blue Book D.1.A.).

(e) Additional analysis on the spot using the second sample is performed by a standardized high-sensitivity identification method, such as mass spectrometry. If the sample composition is to be kept confidential, this is to be done in such a way as to preclude the revealing of sample information beyond what is needed to confirm the presence or absence of a chemical listed in Schedule [1] of the Convention. In case of mass spectrometry, e.g., only mass numbers specific for Schedule [1] chemicals will be scanned. If other techniques were applied, the approach would be accordingly.

(f) If during additional analysis of sample 2 a chemical listed in Schedule [1] is positively identified, confirmation analysis at the laboratory of the Technical Secretariat using two approved, independent, trace

identification methods becomes necessary. For this purpose, the appropriate sample number 3 shall be transferred to the Technical Secretariat in compliance with the appropriate regulations to preserve the sample itself as well as to maintain confidentiality. The sample shall be analysed there, using approved identification methods. The sample may be accompanied during transfer and analysis and until final destruction in the Technical Secretariat by a representative of the inspected State party who will confirm the proper sample handling, analysis and destruction afterwards. Any documentation regarding the analysis at the laboratory of the Technical Secretariat shall not contain information about the sample composition except for the presence or absence of Schedule [1] chemicals.

4.4. Special approaches for material balance verification

(a) The head of the inspection team will request the facility operator to prepare and provide a material balance statement. This statement shall contain:

(i) The amount of the produced chemical pertaining to the suspicion of illegitimate diversion for chemical weapons production over the accountancy period to be defined by the head of the inspection team. The material accountancy period should cover a reasonable time span which may be the last period of uninterrupted production at the facility before the event of the inspection. If this period is considered to be too limited to reach definite conclusions, a longer period of time, not exceeding one year, can be envisaged;

(ii) the amount of the chemicals to be covered by the accountancy which is stored at the facility at the beginning of that period;

(iii) the amount of the chemicals stored at the facility at present;

(iv) the amount of the chemicals shipped outside the facility or imported during the accountancy period.

Appropriate documentation and certificates supporting this statement will be necessary.

(b) The following methods are applicable to material balance verification:

(i) performance of a book audit and checking of facility and shipment records;

(ii) performance of inventory verification;

(iii) verification, to the extent possible and necessary, of the data contained in the statement by means of cross-examination of the certificates presented in support of the statement, at the receiver/supplier end. If so decided, the head of the inspection team shall take a decision as to which data are to be cross-examined, taking into account the nature of the data (i.e., volume of the shipment), the nature of the receiving/supplying facility and/or shipment (i.e., sale, export, delivery to a facility within the inspected State party) and the resulting verification effort.

(c) In case that no accountancy bigger than the significant quantity is detected by the material balance verification, no specific data of the inspected balance have to be included in the report, neither must the facility operator statement be included. The report will only mention the fact that a material balance verification was performed and that no diversion of a significant quantity of material was detected.

(d) In case that an amount of material bigger than a significant quantity cannot be accounted for, the head of the inspection team will request an explanation to resolve the anomaly by the facility operator. In that case, the amount of material unaccounted for has to be included in the report together with the explanation given by the facility operator. Before concluding the inspection with such a result, all efforts will be undertaken towards resolving the anomaly.

5. Approaches for suspected clandestine stockpiling of chemical weapons

5.1. Verification principles

(a) The verification principle to be applied is anomaly detection.

An anomaly is defined for the purpose of this type of inspection, to be the presence of chemical weapons, as defined under Article II of the Convention, i.e. the presence of:

(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 for such chemicals intended for purposes not prohibited by the Convention as long as the types and quantities involved are consistent with such purposes;

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

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

5.2. Verfication methods

(a) The following methods may, inter alia, be applied during the course of the inspection, either isolated or in combination, as decided by the head of the inspection team:

(i) visual inspections;

(ii) interviewing personnel of the inspected facility as selected by the inspection team;

(iii) sample taking and analysis;

(iv) analysis of body fluid samples taken from personnel selected by the inspection team;

(v) photographic recording.

(b) If photographic recording is applied, the photographs will be taken by the representative of the National Authority of the inspected State Party by order of the head of the inspection team, using a camera that allows instant development of two identical copies which will be split between the inspection team and the representative of the National Authority. Observations made under 1 (d) should be taken into account when taking photographs.

(c) Relevant signals to the inspection purpose are:

(i) the presence of ammunition possibly filled with chemical warfare agents;

(ii) the presence of chemicals in bulk storage;

(iii) the presence of parts of chemical weapons, as defined in Article II of the Convention.

(d) If the presence of chemicals in ammunition is suspected or bulk storage of chemicals detected, the head of the inspection team shall request samples to be taken under his supervision, according to the principles for sampling, sample handling and analysis, as laid down under 4.3, except that analysis will not be restricted to Schedule [1] chemicals. For interpretational purposes, the inspection team will be equipped with a

register of known chemicals for chemical weapon purposes (Schedules of the Convention as well as of other toxic chemicals potentially applicable to weapons purposes). If analysis detects:

(i) a chemical listed in Schedule [1], this is to be regarded as conclusive evidence, except there is a statement that the inspected facility is entitled under the provisions of Article VI of the Convention to handle these materials. The facts which can support this statement have to be recorded. In this case, the verification team will also have to verify that the production and handling of the material is in accordance with Article VI;

(ii) a chemical not listed in Schedule [1] yet covered by other annexes to Article VI of the Convention, the inspection team shall request an explanation of the purpose of the storage of the chemical, which, if appropriate, is subject to further verification activities. Verification approaches, as laid down under 4, may apply.

(iii) a chemical not listed in any schedule and not covered by any of the annexes of Article VI of the Convention, yet known to be a toxic chemical, request an explanation about the purposes of storage of the chemical, which is, if appropriate, subject to further verification activities. Verification approaches, as laid down under 4, may apply.

The precise nature of the chemical investigated shall only be revealed, in case the chemical was covered by one of the annexes of the Convention or was of a nature that could be used for chemical-weapons purposes.

(e) If the presence of other parts of chemical weapons, as defined under Article VI of the Convention, is detected, photographic evidence will be taken as laid down under 5.2 (b).

6. Approaches for alleged use of chemical weapons

Approaches for alleged use of chemical weapons need to be developed and should be based on:

(i) the material already recorded in the CD, e.g. the contributions prepared by Canada and Norway;

(ii) the results of the work of the expert group set up by the Secretary-General of the United Nations in accordance with resolution 42/37 C.

7. Approaches for suspected development of chemical weapons

7.1. Verification principles

(a) The principle of verification of suspected chemical weapons development is anomaly detection.

(b) An anomaly is defined for the purpose of this type of verification as any condition or evidence that may be the result of the development of chemical weapons. Conclusive evidence would, for the purpose of this type of verification, inter alia, be:

(i) the presence of chemical weapons prototypes;

(ii) the presence of Schedule-[1]-chemicals in facilities not licensed to handle these chemicals;

(iii) the discovery of documentations or records which unmistakably show that the activities carried out were aimed at developing chemical weapons.

Supportive evidence may, inter alia, be a laboratory/facility design which enables to carry out experiments with unusual amounts (several hundred grammes or even more) of supertoxic or unknown new types of chemicals, including experiments pertaining to dissemination studies, pilot-plant production studies, or environmental fate assessments. If such features are discovered, proper explanation about the purpose of those experiments need to be requested from the facility operator or person in command, whatever applicable.

7.2. Verification methods

The following methods can, inter alia, be applied either in isolation or in combination:

(i) sampling and analysis;

(ii) interviews with personnel selected by the inspection team;

(iii) visual inspection;

(iv) photographic recording;

(v) inspection of books, records and other documentation.

The choice of methods as well as verification efforts to be applied will depend on the specific nature of the inspected facility (type of laboratory or facility, nature of activities carried out there, etc.).

CD/CW/WP.209	Draft Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament	1 Sept. 88

NOT REPRODUCED

FRG	CD/CW/WP.210	Verification of Non-Production of Chemical Weapons: Ad Hoc Checks.	Also issued as CD/869 6 Sept. 88

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CONFERENCE ON DISARMAMENT

CD/CW/WP.211
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Ad hoc Committee on Chemical Weapons

USSR

Working paper

Assessment of the proposal by France concerning "security stocks"

1. The USSR proceeds from the premise that the order of destruction must be based on the principle of undiminished security of States during the entire destruction process, as has already been agreed in the "rolling text". However, the French proposal concerning "security stocks", while proclaiming the same principle, does not in fact have the result of ensuring security.

2. The French proposal provides that the States parties to the convention will have the right to retain production capacities and manufacture chemical weapons, and also acquire such weapons, for at least eight years and possibly longer after the convention enters into force. Moreover, this right would be granted not only to States possessing chemical weapons, but also to those without them. As a result, States possessing chemical weapons could renew their stocks (within the limits of the "security stock"), while those without could establish such "security stocks". This constitutes in essence a call for the legalized build-up and proliferation of chemical weapons. This approach leads not to equal security but to increasing equal insecurity.

The security of the parties to the convention can be ensured immediately after its entry into force through the implementation of a number of measures which would safely freeze stocks at current levels until they are destroyed, and would rule out preparations for their use as well as actual use. This would involve, first and foremost, the declaration of all existing stocks, their placing under systematic international control with the help of on-site inspections and continuous monitoring with instruments, and the adoption of measures to ensure that the chemical weapons are not removed from the store

except to a destruction facility. Provisions to this effect are contained in paragraphs 2 and 3 of article IV of the "rolling text". Moreover, the removal of chemical weapons from a store to a destruction facility must be conducted under international control. This provision, contained in the annex to article IV, section II, paragraph 6(b), has been agreed upon by all participants in the negotiations.

The implementation of these measures, which in essence would amount to the placing of chemical weapon stocks under "international arrest", would place all participants on an equal footing in terms of their security.

3. The authors of the proposal under consideration consider that the security of all States parties may be called into question either gradually (e.g. as a result of delays in the timetable or the destruction of the stockpiles as a result of material difficulties) or suddenly (e.g. the exit from the convention of one of the States parties or its refusal to continue with the elimination of the remaining stocks). Theoretically such situations may arise. However, the response to them should be different from that suggested by the authors of the proposal.

If a State begins to experience material or technical difficulties in the process of destroying its stocks, it should be granted assistance in order to ensure compliance with the schedule of destruction. It is another matter when a State refuses to continue destroying its stocks. This is a flagrant violation of the convention, with all the consequences that follow. This problem should be solved by creating an effective mechanism which would ensure compliance with the convention.

4. The French proposal does not solve the problem of preventing an exceptional situation connected with the possible withdrawal of a chemical-weapon State party from the convention and the unfreezing of its stocks. The paradox of the French proposal lies in the fact that, while calling for equal security for States parties to the convention, it may objectively increase the likelihood that such an exceptional situation will arise, in so far as the number of countries possessing chemical weapons will grow after the convention enters into force. It is one thing when all chemical weapon production facilities are closed and secured, and another when even one such facility remains. It will be an easy and rapid task to exceed the limits of "security stocks" by using this facility and its infrastructure. In this way the dangerous consequences of a State's

withdrawal from the convention will also increase, since it will possess not only reactivated stocks but also the capability for effecting their rapid build-up, renewal and upgrading.

5. The convention should eliminate the real difference between chemical-weapon and non-chemical-weapon States, and should do so immediately after it enters into force. The French proposal, however, is based on the premise that the status quo existing before the convention enters into force can be changed to the advantage of those States that do not possess chemical weapons or would like to increase their stocks.

The French proposal runs counter to the essence and spirit of the convention. A scheme for the legitimizing of chemical weapons industries - and the most dangerous aspects of them - is placed in opposition to the concept of consistent elimination of chemical weapons and the facilities for their production. The French proposal would also seriously complicate monitoring of chemical weapon stocks. As a result, not only will there not be an increase in confidence among the parties to the convention, but new sources of concern will appear which may divide the States that have signed the convention. This cannot either ensure security for the parties to the convention, or encourage them to accede to it on a large scale.

GDR	CD/CW/WP.212	Chemical Weapons Convention: Provision of Data Relevant to the Chemical Weapons Convention	Also issued as CD/871 16 Sept. 88

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CONFERENCE ON DISARMAMENT

CD/CW/WP.213 */
19 September 1988

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Ad Hoc Committee on Chemical Weapons

TRIAL INSPECTIONS

Working Paper by the Chairman of the Open-ended Consultations

In the Draft Chemical Weapons Convention, a number of provisions relate to on-site inspections within the chemical industry. In order to expedite work on the Convention, and to assess whether the proposed text has adequate and practical provisions to provide the necessary assurance to States that civil facilities are used only for purposes not prohibited by the Convention, it has been suggested that trial inspections could be undertaken.

In a first stage, such trial inspections should be carried out on a national basis. In the second stage, the experiences of the national trial inspections should be pooled and evaluated together, in the light of the relevant provisions of the draft Convention. This process could be devoted to the discussion of what might be involved in, and elaboration of, modalities for the third stage: trial inspections with multilateral participation.

This paper is primarily intended to assist interested States in their preparations for the national trial inspections. The suggestions contained in the paper are not in any way binding or mandatory, but can be regarded as a list of issues of relevance to the trial inspections.

The paper is divided into three parts. The first part (A. General Approach) could be used for the development of scenarios for the trial inspections. The second part (B. Detailed Approach) provides a kind of "check-list" for the elaboration of procedures for the conduct of the trial inspections. The third part (C. Specific Aspects) provides a list of issues

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*/ Reissued for technical reasons.

which might be addressed by the trial inspections. The paper could also in relevant parts be used by States as a reference in preparing reports of the results of their national trial inspections.

Information available regarding the national trial inspections could be discussed during the intersessional work of the Ad hoc Committee on Chemical Weapons. The detailed elaboration of modalities for the multilateral trial inspections could commence in the 1989 spring session with a view to beginning the actual inspections as soon as possible after these modalities are worked out.

A. GENERAL APPROACH

1. Objectives of trial inspections

The objectives of a trial inspection under the provisions of the Annex to Article VI [2] would be to test procedures for verifying that:

- the facility is not used to produce any chemical listed in Schedule [1];
- quantities of chemicals listed in Schedule [2] produced, processed or consumed are consistent with needs for purposes not prohibited by the Chemical Weapons Convention;
- chemicals listed in Schedule [2] are not diverted or used for purposes prohibited by the Chemical Weapons Convention.

The inspection would assess the degree of intrusiveness required to provide such verification and so assist in the development of a verification régime that would provide States parties with the necessary assurance of compliance while protecting commercial confidentiality.

The objectives of a trial inspection under other provisions in Articles VI and IX would be to test procedures for verifying that the production, processing and consumption of chemicals are consistent with purposes not prohibited by the Chemical Weapons Convention.

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

Main alternative: Annex to Article VI [2].

If no facility is available to which the Annex to Article VI [2] is applicable, any chemical could, solely for the purpose of the trial inspections, be included in Schedule [2]. This means that trial inspections could take place at almost any facility, but attention should be paid to the desirability of selecting a facility which, in relevant parts, would have a similarity to a facility to be declared under the Annex to Article VI [2].

Possible variations including concepts which are in early stages of deliberation and for which no specific provisions exist:

- Article VI - e.g. ad hoc checks;
- Annex to Article VI [3] - e.g. spot checks;
- Article IX - challenge and clarification inspections.

3. Type of on-site inspection

Main alternative: An initial visit for familiarization purposes, for determination of the inspection plan, and for collection of information for the "facility attachment", followed by a routine on-site inspection.

Possible variations:

- Only an initial visit;
- Ad hoc check;
- Spot check;
- Challenge inspection;
- Clarification inspection;
- Other type of on-site inspection without an initial visit.

4. Advance information

4 a. Declarations

Main alternative: Initial declaration, relating to the specific facility to be inspected, according to the relevant provisions in the Annex to Article VI [2].

Possible variations and/or additions:

- Annual declaration(s);
- Advance declaration(s);

4 b. Agreement on inspection procedures

Main alternative: After an initial visit, a "facility attachment" based on the "Model for an agreement relating to facilities producing, processing, or consuming chemicals listed in Schedule [2]" (contained in CD/831 pp. 112-115) would be negotiated and/or elaborated. This "facility attachment" would only pertain to the trial inspection.

Possible variation:

- No "facility attachment".

5. Type of facility to be inspected

Main alternatives:

- Multipurpose facility being part of a complex;
- "Stand-alone" multipurpose facility;
- Single-purpose facility being part of a complex;
- "Stand-alone" single-purpose facility.

6. Type of declared activity at the facility

Main alternatives:

- Production during the report year (either end-product or intermediate);
- Processing during the report year;
- Consumption during the report year;

Chemical(s):

- Listed;
- Solely for the purpose of the trial inspection included in Schedule [2];

Timing of the trial inspection:

- When the activity is being carried out;
- During an interim period.

Possible variations:

- During the report year only production, processing or consumption of unlisted chemical(s), although earlier there was also production, processing or consumption of listed chemical(s) or chemical(s) included in Schedule [2] solely for the purpose of the trial inspections;
- No declared activity at the facility (e.g. trial inspections under the provisions of Article IX).

7. Actual activity at the facility

Main alternative: Activity as declared;

However, in order to test the effectiveness of the inspection procedures, intentional complications could be introduced. If the inspectors are aware of this possibility but not of the exact nature of possible complications, this might stimulate the inspection effort and provide a better idea of what degree of intrusiveness that might be necessary during an on-site inspection. Such intentional complications might include e.g. the following additions to the main alternative:

- Activity as declared but also undeclared production of listed chemical(s) below threshold for declarations;
- Activity as declared but also undeclared production of listed chemical(s) above threshold for declarations;
- Activity as declared but also undeclared processing, consumption or storage of listed chemical(s) above or below threshold for declarations;
- Activity as declared but also undeclared presence of listed chemical(s), e.g. as impurities.

Possible variations can also be envisaged, e.g.:

- Activity qualitatively as declared but in excess of declared quantities;
- Declared activity does not take place but has been replaced with a similar undeclared activity.

B. DETAILED APPROACH

This part relates primarily to the preparation for and conduct of a routing on-site inspection under the Annex to Article VI [2]. However, many items are also relevant to other types of inspections envisaged under the Convention.

1. The inspection mandate
2. Composition of the inspection team
   - size
   - skills
   - source
3. Inspection equipment
   - furnished by the facility
   - brought by the inspection team
   - types of equipment
4. Activities prior to the arrival of the inspection team on-site
   - notification
   - equipment clearance
   - transportation
   - general timeframes
5. Advance preparations on-site
   - control centre, including communication facilities
   - employee training
   - physical preparations
   - accommodation for inspectors (meals, lodging, work space, interpretation, medical care)
6. Escort and points of contact arrangements
   - host government representatives
   - facility representatives
7. Other participants
8. Duration of inspection and initial visit respectively
   - hours
   - a few days
   - at least one week
   - consideration of possible factors to determine inspection frequency, etc.

9. Measures to protect confidential information
   - restrictions on participation
   - restrictions on access
   - assurances by participants
   - other procedures
10. Opening conference
   - information from the inspection team
   - information from the facility
11. Types of records needed and/or audited
   - plant production records
   - production process records
   - records on chemicals produced
   - plant information
   - utility/financial statements
12. Plant orientation tour
   - only facility to be inspected
   - surroundings
13. Inspection of areas and facility equipment
   - areas inspected
   - items inspected
   - procedures for inspection of areas and items
14. Inspection of operation procedures
15. Sampling and sample-taking procedures
   - no sample-taking
   - no actual sample-taking but pre-prepared samples provided
   - limited sample-taking subject to the approval of the facility
   - sample-taking by facility personnel whenever requested by the inspection team
16. Handling of samples
   - preserving sample integrity during handling at facility
   - preserving sample integrity during transports and off-site handling
   - procedures for transport to off-site laboratories
17. Analysis of samples
   - no analysis of samples
   - no analysis of samples taken but instead analysis of pre-prepared samples

- analysis of samples taken
- analysis on-site by the facility
- analysis on-site by the inspection team in the presence of facility representatives
- analysis off-site
- timeframes for analyses

18. Type(s) of analyses
    - analyses only for presence of declared chemicals
    - analyses for presence of (some) Schedule [1] chemicals
    - analyses for presence of (some) Schedule [2] chemicals
    - analyses for presence of (some) Schedule [3] chemicals
19. Documentation of the inspection
    - means of documenting the inspection
    - removal of documentation from the site
20. Evaluation by inspectors
    - data provided by the facility
    - visual observations
    - sampling
    - co-operativeness of the facility
21. Closing conference
    - information furnished by the facility
    - information furnished by the inspection team
22. Anomalies, disputes and complications
    - observed occurrences
    - procedures for resolution
23. Report of the inspection team
    - content
    - procedures and timeframes for preparation
24. Impact of the inspection on facility operations
    - direct costs and benefits
    - indirect costs and benefits
25. Other matters

C. SPECIFIC ASPECTS

Under the same headings as used in part B, this part lists, as examples, some provisions contained in the report of the Ad hoc Committee (CD/874) which could be relevant in the context of trial inspections. It also suggests some specific aspects, relating to these provisions, which could be addressed during trial inspections.

1. The inspection mandate

Page 105, Part III, paragraph 1

To establish whether a tightly defined mandate (and the requirement that they shall refrain from going beyond this mandate) will in all cases allow the inspectors to fulfil the overall objects of routine on-site inspections of Schedule [2] facilities as detailed in paragraph 4, page 81.

Page 105, Part III, paragraph 2

To establish in broad terms the meaning of "activities of the inspectors shall be so arranged as to ensure ... the effective discharge of the inspectors' functions and ... the least possible inconvenience to the State concerned and disturbance to the facility or other location inspection".

Likewise to establish the meaning of "the least intrusive manner" and consider how compatible this concept is with the speedy and efficient accomplishment of the inspection objectives.

2. Composition of the inspection team

Page 104, Part I, paragraphs 1-3

To ascertain how many inspectors with what types of expertise will be required for each type of inspection. Together with the multilateral data exchange exercise envisaged this should facilitate consideration of the overall size and expertise required for the Inspectorate (taking into account, of course, the fact that States Parties may refuse the designation of proposed inspectors).

Page 83, paragraph 10

To establish the number of inspectors and other staff, the expertise and the duration of visit required to fulfil the purpose of the initial visit.

3. Inspection equipment

Page 127, paragraph 5.3

To ascertain what types of special equipment the inspectors might require on an exceptional basis, whether this could be provided/operated by personnel

of the inspected facility and, if not, what other practical arrangements could be proposed to provide such equipment and meet the inspection timeframe.

Pages 84-85, paragraphs 14 (c), second tick, and 14 (d), third tick, and page 110, paragraph 6 (a)

To develop consideration of what types of instruments and devices will be required to fulfil inspection requirements (for each type of facility and each type of inspection), bearing in mind confidentiality constraints. Likewise to ascertain how feasible it is for the Technical Secretariat to draw up an illustrative/exhaustive list of standard equipment for this purpose and to develop regulations governing such equipment.

To develop consideration of what type of analytical instruments will be required for the analysis of each of the listed chemicals, and the availability of such instruments.

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

Page 82, paragraph 6, and page 84, paragraph 14 (a)

To establish a notice period (for each type of facility and each type of inspection) that is both feasible in terms of practicalities but also takes into account the need to prevent the removal of evidence of any activities to be prohibited by the Convention.

Page 83, paragraph 12, and page 140, paragraph 11.3, and pages 106-108, paragraphs 2 (a)-(c)

To establish the feasibility of proposed timeframes for each stage of each type of inspection or to propose more practical alternatives taking into account:

(a) the size of the inspectorate

(b) the availability of all necessary personnel/services

(c) the equipment and materials required, whether provided by the Technical Secretariat, the inspected facility/State or from elsewhere

(d) the possible need for off-site analysis

(e) the time required to get clearance/agreement for necessary action to resolve unforeseen difficulties

(f) the need to resolve as far as possible ambiguities

(g) the possibility of a non-co-operative attitude of the facility

(h) the gradual acquisition of inspection experience by inspectors

5. Advance preparations on-site

Page 84, paragraph 14 (b)

6. Escort and points of contact arrangements

Page 82, paragraph 8, and pages 84-85, paragraphs 14 (c)-(d), and pages 105-106, paragraphs 3-4, and page 128, paragraph 8

7. Other participants

8. Duration of inspection and initial visit respectively

9. Measures to protect confidential information

Page 37, paragraph 6, and page 105, Part III, paragraph 2

To establish the adequacy of present provisions on the protection of confidential information, and to obtain information and ideas which might help in the elaboration of further regulations, if required, for the protection of confidential information for the Technical Secretariat.

Pages 125-126, paragraphs 2 and 2.1

To determine what confidentiality régime should be applied to each element of the information used to design routine inspections.

Page 84, paragraph 14 (c), first tick

To establish how unimpeded access for the inspectors to all the areas necessary for the fulfilment of the aims of routine on-site inspection can be made consistent with the need to respect commercial confidentiality/proprietary rights. And so, to establish what arrangements might be considered to reconcile the need to verify with the need to protect confidential information where these two needs conflict.

10. Opening conference

To ascertain the adequacy of the time set aside for briefing the inspection team on safety procedures, taking into account the complexity of certain facilities and the availability of personnel to perform the briefings. Also to consider the implications of unavailability within the timeframes of (a) suitable facility escort(s).

11. Types of records needed and/or audited

Page 105, Part III, paragraph 2

To establish to what extent the inspectors could know what information and data are necessary to fulfil their mandate and only request that.

12. Plant orientation tour

13. Inspection of areas and facility equipment

Page 81, footnote 3

To assess the ability to establish whether unused capacity in declared or undeclared facilities has been used (between inspections) for purposes prohibited by the Convention.

Page 118, paragraph 2 (b)

To assess the ability to detect whether declared Schedule [2] or other production facilities have been converted between routine inspections for clandestine production of chemicals in quantitites and/or for purposes prohibited by the Convention.

Pages 83-84, paragraphs 11 and 13, and page 125, paragraphs 1 (e) and (f), and page 126, paragraphs 3 and 4 (a)-(c), and page 127, paragraphs 5.2 (a)-(b)

To determine the types of facilities relevant to the inspection and the resulting areas/places/sites to which the inspectors shall have access and so to establish the relevance/adequacy of the areas of the facility which are suggested should be subject to inspection (page 84, 13 (i)-(viii)). To ascertain the adequacy/relevance of the provisions in the "Model for an Agreement Relating to Facilities Producing, Processing or Consuming Chemicals Listed in Schedule [2]", including those concerning the identification of such areas and those dealing with what activities will be allowed where.

Pages 125-126, paragraphs 2 and 2.1

To establish the adequacy of the design information.

Page 128, paragraph 10

To elaborate ideas on how the inspectors/Technical Secretariat can obtain the information required to know that routine procedures need to be changed and propose the necessary changes/revisions/updating of inspection procedures if, in the conduct of their routine inspections, they are to refrain from activities which go beyond the inspection mandate.

14. Inspection of operation procedures

Page 126, paragraph 4 (d)

To establish whether it is possible to certify losses within declared and permitted production processes while ensuring that such certification is not abused to hide illicit diversion of chemicals for purposes prohibited by the Convention and, if so, what ranges of losses are credible for each production process.

Page 106, paragraph 4

To ascertain the feasibility of relying on the staff of the inspected facility to carry out, within the proposed timeframes, particular operations which might be requested by the inspectors. To establish what operations might fall in this category and develop practical timeframes.

Page 106, paragraph 4, and page 128, paragraph 8, and page 85, paragraph 14 (d), fourth tick

To develop practical timeframes for operations which might be performed by the staff of the inspected facility at the request of the inspectors.

15-18. Sampling and sample-taking procedures, handling of samples, analysis of samples, and type(s) of analyses

Page 127, paragraph 6

To develop ideas for standardized sampling procedures for the practical provision and conduct of on-site analysis, and for procedures for handling/obtaining duplicate and/or additional samples.

Also, to consider how these might be supplemented in order to analyse whether or not novel agents are present.

Pages 84-85, paragraph 14 (c)

To establish the types and number of samples and sampling points necessary for the conduct of routine on-site inspections and the scope for the inspected State to cheat in its taking and analysis of the samples.

To establish the measures necessary to ensure the security of samples transferred to designated laboratories for analysis in order to help elaborate the appropriate procedures.

19. Documentation

Page 127, paragraph 5.2

To establish the degree of confidentiality with which information arising from such inspections will be handled.

Page 85, paragraph 16

To establish what information can/should be left at the site under dual lock and key and be treated as confidential.

20. Evaluation by inspectors

21. Closing conference

Page 85, paragraph 17

22. Anomalies, disputes and complications

Page 85, paragraph 17

To obtain an idea of what types of ambiguities are susceptible to immediate clarification and what would require longer (e.g. clearance from the highest facility management level or from the Government concerning commercial research data/classified data) and hence obtain an idea of what forms of ambiguities mentioned in the report are/are not cause for major concern.

23. Report of the inspection team

Page 85, paragraph 16, and page 106, paragraph 5

To establish what format of report and what contents best suit the purpose of each type of inspection and to develop guidelines for the preparation of these reports.

To establish the extent to which each type of report can be circulated.

Page 106, paragraph 6

Depending on recommendations for the contents of each type of report, to ascertain the degree of confidentiality to be accorded them.

Depending on recommendations for the contents of reports for each type of inspection, to assess their value in clarification of ambiguities raised by other States parties.

Pages 84-85, paragraph 14 (c)

To establish how long will be required to analyse samples, collate material etc. and prepare the report in order to arrive at a practical timeframe for the completion of the report.

24. Impact of the inspection on facility operations

Page 106, paragraph 4

To establish to what extent routine on-site inspections might hamper, delay or affect the operation or safety of a facility.

25. Other matters

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