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**ROLE AND FUNCTION
OF A
NATIONAL AUTHORITY
IN THE IMPLEMENTATION
OF A
CHEMICAL WEAPONS CONVENTION**



AUGUST 1989

CANADA



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AUGUST 1989

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PREFACE

This paper was first published in April 1989 for distribution to Canadian Government agencies in order to promote discussion concerning the preparations they may need to make to implement a Chemical Weapons Convention. The authors were aware of efforts already underway to extend the discussion to include representatives of national industry, and it would appear to follow that early consideration should be given to the participation of representatives of national industry on a committee concerned with preparations for treaty implementation.

Written by a consultant from the University of Saskatchewan in conjunction with the Verification Research Unit of External Affairs and International Trade Canada, the paper's conclusions and recommendations do not necessarily reflect the views of the Canadian Government as they currently exist or as they will eventually materialize from the consultative process. In particular, the final division of responsibilities among Government agencies may differ somewhat from that represented in the paper.

It was suggested that the material contained herein might be useful to other States interested in the early entry into force and implementation of a Chemical Weapons Convention, and so the paper has been approved for wider distribution with the same purpose of promoting discussion.

EXECUTIVE SUMMARY AND RECOMMENDATIONS

It is now agreed by all parties involved in the negotiations of a Chemical Weapons Convention (CWC) at Geneva that the complexities of compliance are such that verification of compliance will of necessity have to be carried out at the international level by a highly skilled organization. However, little thought has been given as to how the potential States Party to such a Convention will provide evidence of compliance to the International Authority. This paper has reviewed these national obligations from a Canadian perspective and presents for further study an analysis of the extent of the problem for Canada, together with suggestions as to how a Chemical Weapons Convention could be implemented in Canada.

As a nation which does not have any Chemical Weapons Production Facilities (CWPF), nor possesses Chemical Weapons (CW), and whose chemical industry is not (now) concerned with chemicals of direct interest to such a Convention, the duties of a National Authority can be assigned to an existing agency such as the Department of the Environment.

As the CWC evolves, attention will need to be given to the Canadian enabling legislation and its relationship to other legislation and to the Canadian Charter of Rights and Freedoms.

(iv)

It is recommended that:

- (i) the National Authority be formed from appropriate elements of External Affairs and International Trade Canada and the Department of the Environment;
- (ii) External Affairs and International Trade Canada be responsible for the diplomatic aspects of the Convention, e.g. representation on the Consultative Committee [Conference of States Party] and other related tasks;
- (iii) the Department of Environment be responsible for the technical aspects of implementing the CWC;
- (iv) specific powers be given to the National Authority so that it may collect data required by an International Authority, review information provided by industry on chemicals and on facilities which could produce chemical weapons, and generally provide assistance to an International Authority;
- (v) a Steering Committee for implementation be formed to include a representative from each of: External Affairs and International Trade Canada, Department of

(v)

the Environment, and Department of Justice. The Steering Committee would be chaired by a senior manager from External Affairs and International Trade Canada;

- (vi) an Advisory Committee be formed to include a representative from each of: the Department of the Environment, Department of Justice, Department of National Defence, Industry Science and Technology Canada, Agriculture Canada, and Department of Health and Welfare. The Advisory Committee would be co-chaired by a senior manager from each of External Affairs and International Trade Canada and the Department of the Environment; and
- (vii) the legal problems associated with the concept of Challenge Inspection within the Chemical Weapons Convention be carefully examined with respect to enabling legislation.

ENABLING LEGISLATION

Once Canada signs the Chemical Weapons Convention, it will have to establish the necessary legislative and administrative/regulatory measures to implement the Convention. Canada's basic obligations will be:

- (i) to designate or establish a National Authority;
- (ii) to collect and transmit data required by the International Authority;
- (iii) to provide assistance for international on-site inspections; and
- (iv) to respond to requests for the provision of expertise, information and laboratory support.

IMPLEMENTATION

It seems appropriate to suggest that the necessary enabling legislation be developed by those departments with the greatest direct interest in the legislation, but also that others will have concerns to be addressed either directly or indirectly.

External Affairs and International Trade Canada will be involved: in liaison with the CWC's International Authority, consisting of a Consultative Committee, Executive Council and Technical Secretariat; in the accreditation to

Canada of International Inspectors; and in other tasks. However, the Department whose national responsibilities makes it the best candidate to assume the technical responsibilities of a National Authority is the Department of the Environment. The most difficult problem with respect to enabling legislation is that of the principle of mandatory, short notice Challenge Inspection, which must be addressed by the Department of Justice. It is therefore recommended that there be a Steering Committee for implementation consisting of:

External Affairs and International Trade Canada;

Department of Environment; and

Department of Justice.

There are four other departments with concerns in this area and so they should also be involved, but perhaps less directly. Agriculture Canada has responsibilities in the area of pesticides and the Department of Health and Welfare in pharmaceuticals and drugs. These products include many which could fall into the classifications of Super Toxic Lethal Chemicals (STLCs) and Other Lethal Chemicals (OLCs) and so could possibly appear on schedules which require data reporting and/or monitoring under a proposed Chemical Weapons Convention. Industry Science and Technology Canada has responsibilities for commercial chemicals and the Department of National Defence will have concerns involving national security. It would, therefore, be appropriate to

extend the above Steering Committee to form an Advisory Committee by adding:

Department of National Defence;

Industry, Science and Technology Canada;

Agriculture Canada; and

Department of Health and Welfare.

OBJECTIVE OF A NATIONAL AUTHORITY

The objective of Canada's National Authority may be simply stated: to ensure that it can provide evidence to an International Authority that Canada is in full compliance with its obligations under the Chemical Weapons Convention. This means that it has to be set up under an appropriate legal structure by which its authority and areas of responsibility are clearly delineated.

It must have the authority to collect the necessary data both on chemicals and facilities as specified in the Chemical Weapons Convention. It must be able to deal with inspectors involved in routine inspections of industry, with challenge inspection and other potential methods of inspection. It must also have the authority to require the emplacement of instruments for monitoring purposes, in those instances specified under the Convention.

ORGANIZATION AND FUNCTION AT THE NATIONAL LEVEL

Under the Convention, each State Party "... undertakes not to: develop, produce, otherwise acquire, stockpile or retain chemical weapons or transfer, directly or indirectly chemical weapons to anyone". National activities in relation to compliance with this obligation will be delegated to a National Authority with the necessary legal instrument(s) to fulfil its mandate. The responsibilities should be shared between External Affairs and International Trade Canada (diplomatic) and the Department of Environment (technical). Diplomatic responsibilities would be assigned to the appropriate division in External Affairs and International Trade Canada and technical responsibilities to the appropriate division in the Department of the Environment.

The extent of the involvement of External Affairs and International Trade Canada will be a function of: (i) the number of meetings of the Consultative Committee; (ii) possible membership of the Executive Council; (iii) bilateral meetings with the Technical Secretariat; (iv) desk officer and director involvement with accreditation of inspectors, visits, inspections etc.; and (v) the site of International Authority.

The Department of Environment would have to be responsible for all the technical aspects of interaction with the Technical Secretariat of the International Authority and have the necessary authority to collect all relevant data required by the latter. Its duties would then be: (i) to collect and transmit data for schedule [3] chemicals; (ii) to ascertain whether any schedule [2] chemicals were being produced and, if so, collect and transmit data on them; (iii) to accompany international inspectors; (iv) to assist in the preparation for inspections; (v) to be involved in the preparation of facility attachments; (vi) to assist in the training of inspectors; (vii) to participate in bilateral meetings with the Technical Secretariat; and (viii) to provide technical advice to External Affairs and International Trade Canada.

In essence, each State Party has to establish administrative and management control of the data essential to show compliance with the Chemical Weapons Convention, and be prepared to demonstrate compliance to International Inspectors through on-site inspection and, if required, instrumental monitoring.

REQUIREMENTS FOR DATA COLLECTION

The National Authority will be responsible for the collection of information on chemicals and chemical production facilities. There will also be the necessity of collecting data on former chemical weapon production facilities (CWPF), chemical weapons and on a possible single small scale (production) facility (SSSF) permissible for research for protective purposes. Information required on the chemical industry will be gathered directly by the Department of Environment, while that required from defence sources will be collected indirectly from the Department of National Defence.

Canada could develop totally new legislation for this purpose but it is possible that the new Canadian Environmental Protection Act (CEPA) could be modified by an addendum which would allow provisions of that Act to be utilized to develop the reporting functions of a National Authority required by a Chemical Weapons Convention. This would allow use of the lists currently being developed, i.e. Domestic Substance List and Non-Domestic Substance List, and would require a suitable modification of Schedules I and II in CEPA. The toxic chemicals which appear in schedules [1], [2] and [3] of the draft CWC could then be incorporated so that all such chemicals produced, imported, exported or processed in Canada would be reported upon as well as the facilities involved if appropriate.

The requirements for the Department of National Defence fall into two parts: retrospective and future activities. There may be a need for an archival examination of past records on CWPF, chemical weapons and transfers of chemical weapons. This could begin before a CWC is signed. It is almost certain that Defence Research Establishment, Suffield (DRES), Alberta will be named as a single small scale facility (SSSF) under the CWC and so will require annual declarations and be subject to systematic international on-site verification through on-site inspection and possible monitoring with instruments for Schedule [1] chemicals.

The National Authority will have to collect the information required for declarations under Articles III, IV and V from the Department of National Defence. The initial and annual declarations required for schedules [1], [2] and [3] will be obtained from the Department of National Defence and from industry.

REQUIREMENTS FOR CHEMICAL FACILITIES

The Convention permits each State Party to have a single small scale facility (SSSF) to produce schedule [1] chemicals for protective purposes. There will be three types of declaration required: initial, advance notification and annual. The facility will have to be identified; and details provided on every chemical produced, together with information

on synthetic methods, use, transfer, storage, etc. The information will have to be compiled by the Department of National Defence and transmitted to the National Authority. The data supplied will be verified by inspection by the International Authority. Any other facility which uses or synthesizes schedule [1] chemicals will require the approval of the State Party and data will have to be reported to the National Authority annually.

The National Authority will need to examine whether or not schedule [2] chemicals are produced in Canada and, if they are, compile information on all such facilities producing above a certain threshold. Major problems may be anticipated with multi-purpose facilities which could produce schedule [2] or [1] chemicals. Such facilities will have to report to the National Authority and the declarations will be subject to a verification regime going beyond data reporting to include random on-site inspections.

The National Authority will have to negotiate agreements with the International Authority with respect to inspection procedures, as well as to negotiate subsidiary agreements for individual facilities.

FACILITY ATTACHMENTS AND INSPECTIONS

Every facility identified as involved with schedule [1] or [2] chemicals will likely be subject to an inspection regime randomly on an annual basis. Provision may also need to be made for on-site instrumental monitoring. Facility attachments, sometimes called subsidiary agreements although the latter term is broader in scope, will have to be negotiated for each such facility by the National and International Authorities (see appendix IV), taking into account various concerns of the owner/operator of the facility. The facility attachment will be drawn up in relation to the model agreement which is being negotiated to form part of the CWC.

In most cases there will be three parties to the negotiation of the facility attachment: the owner/operator of the facility (civilian or military); the National Authority; and the International Authority. The protocols agreed upon will have to balance off the needs of confidentiality (security) against the need to demonstrate compliance with the Chemical Weapons Convention.

The single small scale facility (SSSF) will be under the control of the Department of National Defence; and the verification elements (comprising on-site instrumental

monitoring and inspection) should be agreed upon by the National Authority and DND before negotiations commence with the International Authority at an initial visit, since the SSSF may well be located in a sensitive area.

Initial attempts to obtain information on Canadian production on the chemicals (currently) on schedules [2] and [3] suggest that such production, at least for the foreseeable future, will be under the thresholds being proposed for reporting purposes. If this continues to be the case, then there may well be little to do in this area. However, the current discussions on the so-called 'spot checks' and 'ad hoc checks' could significantly increase the number of inspections which take place in Canadian facilities.

RESPONSIBILITIES OF PRODUCERS AND PROCESSORS OF CHEMICALS

Article VI of the draft CWC is an arms control measure. Its aim is to prevent the production of chemical weapons in the chemical industry. The current strategy is the development of schedules; schedule [1] includes all known chemical weapons; schedule [2] their key precursors; and schedule [3] former chemical weapons now produced in large quantities for commercial purposes, along with other commercial chemicals which are precursors to schedule [1] and [2] chemicals. There should be no production of schedule [1]

chemicals in civilian industry; but there are uses for schedule [2] chemicals in industry where there are also requirements for large tonnages of schedule [3] chemicals.

Producers of schedule [2] chemicals will have to compile the data for a National Authority, which will then be aggregated as national data on production, processing and consumption. Likewise, information will have to be presented on facilities using more than a threshold amount. Data will also be required on on-site conversion, domestic sales and exports. Hence the chemical industry will have to produce data on production, consumption and end-use of schedule [2] chemicals; and on the facility(ies) used to carry out the preceding operations. The data so collected will be subject to verification which once again raises the issue of the negotiation of appropriate facility attachments.

In the case of schedule [3], the negotiated text to date has only established a requirement for data reporting from the National Authority to the International Authority on an aggregate basis. This information will have to be supplied by the industry and collated nationally. The extent of the burden placed on the chemical industry by this reporting requirement will be difficult to assess and will depend to some extent on what use can be made of existing data flows.

In the Canadian context, it seems unlikely that there will be significant production of such chemicals, but the level of Canadian processing of imported chemicals will require further study before the reporting needs can be estimated.

RESPONSIBILITIES OF IMPORTERS AND EXPORTERS OF CHEMICALS

The Canadian market for organic and specialty chemicals is growing rapidly, but the size of the market and the cost of batch-type operations has led to the Canadian demand being met in large part by imports. For example, in 1985 there was a negative trade balance of \$1.6 billion. It follows from this that there is a likelihood that schedule [2] chemicals may well be imported if there is an industrial need. This means that the National Authority will have to develop import/export record keeping procedures to deal with chemical transfers. Companies involved in import/export will have to report transactions involving both schedule [2] and [3] before transfer to the National Authority. There will be a need to aggregate domestic records of such transactions before transmission to an International Authority. The goal as now foreseen will be to develop a national 'mass balance' and provide import/export data in such a way that discrepancies can be uncovered and anomalies dealt with by the National Authority so that the possibility of having to deal with Challenge Inspections are decreased.

CUSTOMS CO-OPERATION COUNCIL AND THE HARMONIZED COMMODITY
DESCRIPTION AND CODING SYSTEM

In 1981 Canada began work towards the introduction of the Harmonized Commodity Description and Coding System (HS) being developed under the Customs Cooperation Council (CCC). The major reasons for this decision were: The HS would provide a comprehensive classification that would be easier to administer and be more easily understood by importers, exporters and manufacturers; it would allow compilation of reliable statistics; there would be a direct relationship between Canadian tariff and trade data and that of other countries using HS; and it would facilitate the preparation of export documents. The work of the CCC in developing a six digit nomenclature sufficiently detailed to identify statistically relevant goods was completed by 1983 when a draft convention was introduced and the implementation date set for 1988. In Canada this meant the conversion of the CITC (Canadian International Trade Classification) to an HS based system. This required subdivision beyond the six digit level; the six digit number was extended to give eight for tariff purposes and then further to ten for the compilation of trade statistics. The HS classification depends upon the intrinsic characteristics of the goods rather than upon end-use as was the case for the previous system. This required the development of Canadian Rules, Supplemental Notes and

Statistical Notes. There are now 65 countries which have either implemented or indicated a target date for the Harmonized System.

This means that there is an internationally agreed system and all of the substances listed in schedules [1], [2] and [3] could be specifically targeted for reporting purposes. The specific numbers are generated by the application of a set of rules to the 97 chapters of HS, and can be used for purposes of export and import control.

This numbering system should be considered as a tool to assist in meeting potential treaty obligations as regards the provision of data on scheduled chemicals; and, should it be decided to proceed in this fashion, it will involve the cooperation of External Affairs, Finance and Statistics Canada.

ANALYSIS OF STATES PARTIES' OBLIGATIONS FROM THE ROLLING TEXT

CD/874:

The negotiation process at the Conference on Disarmament has now reached a stage where we must examine the ways in which State Parties will have to interact with the International Authority which is entrusted with implementation of verification of compliance with the CWC. The International

Authority is described in Article VIII of the "rolling text" in some detail, while Article VII on National Implementation Measures merely states that each State Party "... designate or establish a National Authority", and that it shall inform the Consultative Committee on "... legislative and administrative measures taken to implement the Convention". This article also specifies that each State Party will have to assist the Consultative Committee in the following ways: data reporting, international on-site inspections, and in the provision of expertise, information and laboratory support. It must be noted that while a great deal of the discussions are devoted to the international verification of compliance, the articles of the draft CWC are concerned, in the first instance, with national measures taken taken to comply with the Convention. Verification follows the provision of information from State Parties in the form of declarations, and so national measures must be in place first.

The remainder of this chapter will be concerned with State Parties' obligations as described in the "rolling text", with special attention being paid to Articles III, IV, V, VI and IX where the verification tasks of an International Authority are outlined. Further details are given in the appropriate annex.

Article I: General Provisions On Scope

This article includes all the obligations with which a Party to the CWC agrees to comply.

Article II: Definitions And Criteria

This article will eventually deal only with definitions and criteria, but the interim definition on chemical weapons does have an obligation in bracketed language by which State Parties would agree not to utilize chemicals which would enhance the effect of chemical weapons.

Article III: Declarations

Declarations are required on Chemical Weapons, Chemical Weapons Production Facilities, and on other facilities under the heading of Other Declarations. The first two declarations are directed at possessors and producers. The reporting dates [1 January 1946] [26 March 1975] have been proposed for chemical weapons and [1 January 1946] for chemical weapon production facilities. This reporting requirement concerning information on past activities would necessitate that a number of potential State Parties conduct a detailed review of past records.

Affirmative statements to the above declarations require that relevant actions be taken with respect to the appropriate parts of Articles IV and V and their annexes. It should be noted that these declarations are required "within 30 days".

Annex to Article III:

This annex provides a questionnaire format for the declarations required by Article III. These declarations are the responsibility of the State Party solely and would be a major responsibility for a National Authority of a State which possessed chemical weapons or chemical weapons production facilities or both. For most, the problems will relate to past transfers. The section on "other declarations" is still undeveloped.

Article IV: Chemical Weapons

The provisions of this article deal with the possession of chemical weapons. Any possessor has to make specific declarations about chemical weapons in its possession or on its territory within 30 days of the CWC entering into force. The only aspect which would involve past possession would be 2(c) which is concerned with transfer and receipt of chemical weapons since either 1 January 1946 or 26 March

1975. Another concern would be the discovery of chemical weapons after the initial declaration. Such obsolete or other chemical weapons would also have to be destroyed after declaration.

Annex to Article IV:

This annex develops the details of the declarations required on chemical weapons and on the other related information that a National Authority would have to supply to the International Authority on storage, transfer and eventual destruction. The obligations of a State Party to conclude subsidiary arrangements for verification are described together with their rights with respect to the installation of monitoring equipment. The State Party will be responsible for destruction; but the facility must be designed with verification in mind, and combined plans for verification and destruction will have to be approved at the Executive Council level.

Article V: Chemical Weapons Production Facilities

This article is concerned with the declaration, closure, cessation of production and eventual destruction of chemical weapons production facilities (CWPF). If a State has no current production facilities then the major activities

would involve the recapture of data on former facilities, (section 4b) or on past transfers and receipt, since [1 January 1946], (section 4b).

Annex to Article V:

This annex details precisely the format of the declaration required on chemical weapons production facilities, including former facilities and equipment transfer. The State Party must also report a closure and destruction, with general as well as detailed plans being submitted for the latter. Subsidiary agreements on monitoring must be concluded and the State Party ensure that verification of all activities be accomplished. Again the Executive Council must approve the combined destruction and verification plans.

Article VI: Activities Not Prohibited By The Convention

This article outlines what will eventually be the major basis for compliance activity required of a National Authority since, even for chemical weapons possessors and producers, the destruction of chemical weapons and production facilities should be completed within the first ten years. Each State Party has the right, subject to the provisions of the Convention, to develop, produce, otherwise acquire,

retain, transfer and use toxic chemicals and their precursors for purposes not prohibited by the Convention with the concomitant responsibility to ensure that these are not used for purposes prohibited by the Convention. This means that activities at a single small scale facility (SSSF) and, more generally, of the chemical industry must be monitored to be sure of compliance. It is anticipated that specific toxic chemicals will be subject to international monitoring and that the level of intrusiveness will be a reflection of the risk which these chemicals are thought to pose to the Convention.

At present, the need for three schedules has been agreed in principle (but not necessarily their contents) and an additional one is under discussion. These are:

- schedule [1]: Super-Toxic Lethal Chemicals (STLCs);
- [2]: Key Precursors;
- [3]: Chemicals produced in large commercial quantities and which could be used for chemical weapons purposes; and
- [...]: Production of STLCs not listed in [1];
this is also referred to as schedule [4].

There is also a general understanding that provision must be made for revision of these schedules, and this understanding is reflected in annex Article VI [0] which is entitled "Modalities For Revision Of Lists."

Each schedule involves a State Party in a different set of obligations but, in general, it will have an obligation to declare relevant chemicals and production facilities within 30 days of entry into force of the Convention. Annual declarations are required for certain chemicals and facilities with an appropriate level of international monitoring as specified in the Convention and its Annexes. These involve, inter alia, production, processing, consumption, imports and exports. Information will be required on the past year's activities as well as advance notice for the coming year. Schedule [3] is monitored by data reporting; schedule [2] by a combination of on-site inspection and data reporting; while schedule [1] chemicals are banned except for permitted purposes as provided in the Convention, in which case they will be stringently monitored by on-site inspection and instruments.

Annex to Article VI:

If a nation does not possess chemical weapons or production facilities, most of its obligations will be related to this article and the extent of these obligations will determine the type of National Authority a State Party will require. There will be a need for a very careful assessment of the impact of the various Schedules on both government and civilian facilities, which will have implications for the nature of a National Authority.

Schedule [0] will eventually determine how the schedules of chemicals are revised. There will be a role for a National Authority in this matter either by initiating a proposal for revision or by reviewing a suggested revision, and its consequences.

Schedule [1] contains a provisional lists of STLCs, and the general thrust is that such chemicals shall not be used in commerce except for permitted purposes and that the aggregate amount in stock be equal to or less than one metric tonne. Transfers may be made to other State Parties after a 30 day notification period to the Consultative Committee. Annual declarations are required and any production above a yet-to-be-agreed threshold must be carried out at a single small scale facility (SSSF) which has a maximum capacity of one metric tonne per annum. The SSSF will be subject to systematic international on-site verification through on-site inspection and instrumental monitoring. The guidelines for these have not yet been fully developed but the National Authority will be involved in concluding facility agreements, in accompanying inspectors and in data exchange. Other facilities which use schedule [1] chemicals have to be approved by the State Party and will be required to report data annually to the National Authority.

Schedule [2] consists of the so-called key precursors. There will be initial and annual declarations of aggregate national data on the production, processing, consumption, export and import for each of these chemical and information on each facility which uses more than a yet-to-be-agreed threshold amount of each. Considerable detailed information will be required both on chemicals and facilities, verification will involve systematic international on-site inspection and the State Party will have the right to designate personnel to accompany such teams. There will be initial visits, facility agreements and verification visits. The State Party will also be responsible for making necessary preparations for these visits and inspections. It will have the right to have representatives present during visits to facilities, to obtain duplicate samples, to inspect the instruments used and to be present during sample analysis.

Schedule [3] at this time will involve only data reporting both on chemicals and facilities to the National Authority which will transmit these data to the International Authority in aggregate form. However, any facility could be subject of a Challenge-Inspection (and possibly 'ad hoc checks' or 'spot checks').

Schedule [...], which would contain STLCs not listed in schedule [1], remains controversial. Such chemicals and their production facilities would be subject to data reporting

and to systematic international on-site verification on a routine basis. A National Authority would be involved as with schedule [1] chemicals.

Article VII: National Implementation Measures

As noted earlier, this article is concerned with "National Implementation Measures". It requires that each State Party must develop the necessary measures to implement the Convention, including the setting up of an appropriate National Authority to monitor compliance and interact with the International Authority, as well as to collect and transmit the data required by the latter agency.

Article VIII: The Organization

This article develops the organizational structure of the International Authority concerned with compliance and verification, and sets out in some detail the duties of its constituent parts: the Consultative Committee (General Conference), Executive Council and Technical Secretariat. Although mainly concerned with the Consultative Committee and its suborgans, this article does outline some of the methodology of interaction with the States Parties. These are reasonably detailed for the Executive Council and the Technical Secretariat. The former concludes agreements with

States on behalf of the organization and approves agreements relating to the implementation of monitoring activities. The latter will negotiate the subsidiary agreements relating to on-site inspection, facility attachments and the like. It would also be expected to provide technical assistance, where necessary, to States Party.

Article IX: Consultations, Co-Operation and Fact-Finding

This article is concerned with matters which may be raised, bilaterally or through appropriate international procedures, relating to the objectives or the implementation of the provisions of the Convention. It addresses concerns about compliance, involving both technical and some political matters, and so would engage the National Authority either directly or indirectly. If a Challenge Inspection were to occur, then it would be responsible for making the arrangements nationally for the on-site inspection. There is still considerable discussion about how such inspections will be carried out and reported upon. At the national level, there could be a requirement for enabling legislation, particularly to address respect for individual rights relative to Challenge Inspection, and this must be examined and appropriate action taken.

Article X: Assistance

The discussions on "Assistance" are at an early stage but there will likely be an involvement with a National Authority either through bilateral assistance or an agreed multilateral process.

Article XI: Economic And Technological Development

Again, discussion of this subject has just begun and it is not clear as to what the implications are for a National Authority.

Articles XII to XVI:

These articles deal with: the relation of the Convention to other international agreements; amendments; duration, withdrawal; signature, ratification, entry into force; and languages. These articles, when finalized, will have few, if any, implications for a National Authority engaged in aspects of compliance and verification, and so they will not be discussed further in this chapter.

CANADIAN OBLIGATIONS

The verification of compliance will be under the control of an international Technical Secretariat which will be required to communicate with each designated National Authority with respect to data collection and transmittal, instrumental monitoring, and to international on-site inspections. The Technical Secretariat will have to designate each International Inspector in advance to each State Party, and it follows that each State Party will need to develop a mechanism for the approval of Inspectors to that State. In addition, circumstances could develop which would lead to a decision that a specific Inspector no longer be accredited, and again an appropriate procedure would be required. In the performance of their duties, it is likely that International Inspectors will be accompanied by State officials. The reports of such inspections will be made available to the State Party and will have to be reviewed. Facility attachments, in keeping with a model agreement, will have to be developed for inspection of schedule [2] facilities and of the single small scale facility. Officials of a State Party being inspected will have the right to examine the instruments used by the International Inspectors and may be called upon to provide equipment. There will be a requirement to make administrative arrangements for the International Inspectors on verification visits (e.g. make arrangements for travel and

accommodation) provide services such as office and laboratory space, communication facilities, and medical services).

Challenge Inspection could also place demands of an unexpected nature on a State Party such as the protection of sensitive national security information not related to the nature of the inspection. Hence the organization set up to meet Canadian obligations under the proposed CWC must be able to deal with the above situations.

According to the rolling text (CD/874) a State Party may choose either to establish an independent body or designate an existing body as the National Authority. To determine the best solution for Canada, it is necessary to assess the potential amount of work required to fulfil obligations under the Convention and to examine the responsibilities of existing agencies with respect to the regulation of the chemical industry and the use of chemicals in Canada.

If one notes that Canada does not possess chemical weapons and that any chemical weapons production facilities have long since been destroyed, then one can assess the order of importance and the degree of difficulty of the tasks to be carried out nationally. The following table might result from such an exercise.

Table 1Compliance Activities

<u>Priority</u>	<u>Article</u>	<u>Activity</u>	
1.	VI	schedule [3]	Data Collection, Review/Aggregation and Transmission
		schedule [2]	Data Collection, Review/Aggregation and Transmission; On-site Inspection (and Monitoring)
		schedule [1]	Data Collection, including SSSF Review/Aggregation and Transmission; On-Site Inspection (and Monitoring)
		schedule [0]	Data Collection; Consultation/Negotiation
		schedule [...]	Data Collection; On-site Inspection
2.	III	Other Facilities	Declarations
3.	III/IV	CW-Past Transfers Transfers	Declarations
4.	III/V	Former CWPF	Declarations

This table breaks naturally into two parts: that related to Article VI covers present and future activities; and the remainder to past activities. The information required for Articles III, IV and V will have to be provided by the Department of National Defence to the National Authority so that it can transmit the required data to the Technical Secretariat to demonstrate compliance with the CWC. All of the data required for Article VI will have to come from the civilian

industry except for schedule [1]. The major part of schedule [1] requirements will involve the single small scale facility under the control of the Department of National Defence.

Article II refers only to declarations, while Articles IV and V give a more specific format for particular declarations. Therefore, it is necessary to read Article III with Article IV, and Article III with Article V, to complete the picture. Canada is a nonpossessor of CW and so the only action required with respect to Articles III/IV involves past transfers for chemical weapons and other facilities. This would involve the Department of National Defence in a review of past records since [1 January 1946]. This is also true of Articles III/V which also concern past activities and prior destruction of CWPF (cf. CCD/434 and CD/173). The category of Other Declarations contains the Statement "any facility and establishment ... designed, constructed or used since [1 January 1946] for development of chemical weapons, inter alia, laboratories and test and evaluation sites". As the text now reads this would require a declaration on the "precise location, nature and general scope of activities" of such facilities and would at the very least involve Canada (through the Department of National Defence) in a review of past records. Table 2 briefly encapsulates the requirements for information retrieval for such Canadian facilities in order that the requisite declarations can be made.

Table 2

<u>Former Activities Relating To CW And CWPF</u>			
<u>Facility</u>	<u>Activity</u>	<u>Methodology</u>	<u>Personnel</u>
Cornwall	Mustard Production 1941-45	Data recapture	Record Analysis
Suffield	Mustard Storage	Date recapture	Record Analysis
Suffield	CW Transfer and Receipt	Data recapture	Record Analysis

The Department of National Defence will also likely have to make declarations under Article VI, schedule [1], related to CW activities for protective purposes at DRES. It will probably mean DRES will be classified as a SSSF unless certain threshold quantities are introduced. The alternative would be the notion of an "other facility" which has not yet been fully elaborated. The final decision will depend on the quantities synthesized and the aggregate quantities of schedule [1] chemicals held for permitted purposes. Hence the extent of reporting required from the Department of National Defence after it deals with historical events will be related to its synthesis and storage of schedule [1] chemicals. The SSSF may also be subject to instrumental monitoring in addition to systematic international on-site inspection, although it is difficult to foresee how the former can be applied when very small quantities of agent are produced in the equivalent of a research laboratory at lengthy intervals.

As noted in Table 1, all future activities in Canada will involve Article VI and, except for schedule [1] and the SSSF, will involve the civilian chemical industry. The National Authority will have to make plans as to how it will collect from industry the necessary data on schedule [2] and [3] chemicals and the corresponding facilities. Tables 3a, 3b and 3c give an outline of the requirements.

Table 3aMonitoring/Inspection Of Facilities, Schedule [I] Chemicals

<u>Activity</u>	<u>Methodology</u>	<u>Equipment/Manpower</u>
Data Monitoring	*Initial Declarations	Computers/Analysts
	*Annual Declarations	Computers/Analysts
	Advance Notifications	Computers/Analysts
Site/Process Monitoring	**Initial Declarations	Computers/Analysts
	Advance Notifications	Computers/Analysts
	On-Site Instruments	To Be Decided
Inspection	Initial Visit	Negotiators (technical, diplomatic)
	Routine	Observers (technical)
	Challenge	Observers (technical, diplomatic)

*Concerning activities of previous calendar year.

**Concerning site/process upon entry into force.

Table 3bMonitoring/Inspection Of Facilities, Schedule [2] Chemicals

<u>Activity</u>	<u>Methodology</u>	<u>Equipment/Manpower</u>
Data Monitoring	*Initial Declaration	Computers/Analysts
	*Annual Declaration	Computers/Analysts
	Advance Notification	Computers/Analysts
Site/Process Monitoring	**Initial Declaration	To Be Decided
	On-Site Instruments	To Be Decided
Inspection	Initial Visit	Negotiators (technical, diplomatic)
	Routine	Observers (technical)
	Challenge	Observers (technical, diplomatic)

*Concerning activities of previous calendar year.

**Concerning site/process upon entry into force.

***No provision has yet been made in the rolling text for updating the initial declaration on site/process.

Table 3cMonitoring/Inspection Of Facilities, Schedule [3] Chemicals

<u>Activity</u>	<u>Methodology</u>	<u>Equipment/Manpower</u>
Data Monitoring	*Initial Declaration *Annual Declaration Advance Notification	Computers/Analysts Computers/Analysts Computers/Analysts
Inspection	Challenge	Observers (technical, diplomatic)

*Concerning aggregate activities of previous calendar year.

This brief analysis of Canada's obligations shows that there is no need to develop an independent National Authority to oversee that Canada is in compliance with its obligations under the Convention. This conclusion follows from an assessment of a moderate workload stemming from:

(1) the need to report on non-possession of Chemical Weapons;
(2) the need to report on non-possession of a Chemical Weapons Production Facility; (3) moderate research capacity for protective purposes in protection requiring the small scale synthesis of schedule [1] chemicals; (4) the probable non-production of schedule [2] chemicals above established thresholds by Canadian industry; and (5) modest production of schedule [3] chemicals, whether above or below established thresholds. If an independent body is not required, an existing agency will have to be assigned these responsibilities of data gathering, review and transmission of data; and observing on-site activities of an International Inspectorate within Canada. There are four agencies currently involved with the management of toxic chemicals within Canada, with others being involved to a lesser extent. These are:

Agriculture Canada;

Department of the Environment;

Department of Health and Welfare; and

Industry Science and Technology Canada.

Agriculture Canada is specifically involved with pesticides, and Health and Welfare with pharmaceutical products. The interests of Industry Science and Technology Canada are mainly commercial. The Department of the Environment is responsible, among other things, for the management of toxic chemicals in the environment, and the Canadian Environmental Protection Act (CEPA), which came into force in June 1988, is now its major tool. The structure of the CEPA in developing lists to manage chemicals in Canada is such that all of the chemicals which are likely to appear on the management schedules of the CWC would automatically fall either on the Non-Domestic Substance List or on the Domestic Substance List (see Appendix II). It is obvious that the CEPA is an appropriate vehicle to handle the actual chemicals associated with the CWC. It is worth considering whether some form of enabling legislation could be drafted which would formulate the CWC requirements in such a way that the information gathering and inspection capacity of the CEPA could be used to demonstrate compliance with the CWC. It is recommended, therefore, that the Department of the Environment be designated as the government agency responsible for national compliance measures when Canada signs the proposed CWC and that it be fully prepared to implement such responsibilities by the time the Convention enters into force. The actual additional costs to the Department of the

Environment should be modest when compared to the creation of a separate agency with data collection and inspection capabilities.

As noted earlier, there are other responsibilities which will have to be assumed by External Affairs and International Trade Canada. These include representation at the Consultative Committee, possible (rotational) membership on the Executive Council, diplomatic interactions with both of the above at the headquarters of the International Authority and in Ottawa, as well as dealings with the Technical Secretariat on non-technical matters.

CANADIAN COSTS

At this stage, cost estimates can only be approximate; there are still too many variables for accurate estimates to be made. Nevertheless, one can lay out where the costs will fall and suggest an order of magnitude. After the CWC is opened for signature, there will be costs associated with the establishment and operation of a Preparatory Commission, and one would anticipate that Canada would be as heavily involved in that activity as it has been in the Conference on Disarmament negotiations. This will involve dedicated diplomatic, legal and technical expert support for a period of approximately three years, apart from an assessment

towards the total cost of the Commission which will likely be in the order of a few million dollars, including the initial hiring and training of part of the Inspectorate. The minimum direct costs to Canada of a CWC Preparatory Commission would be the (resident) person years for its duration, travel costs for occasional participants, plus the assessed contribution to the Commission's cost. It is assumed that one diplomatic position and one technical expert position now in Geneva (already focussing on the CWC negotiations) will continue in the Preparatory Commission work. This may need to be augmented by another full-time diplomatic position and a full-time legal expert, depending on the workload remaining to the Commission, recognizing that this will be a period of very intensive and detailed negotiations.

After signature, Canadian enabling legislation will have to be formulated by a working group (Implementation Committee) and there will be indirect costs associated with this task (not discussed further on the assumption that such is the responsibility of existing agencies).

As soon as such legislation is passed, there will be a direct burden of formalizing the prototype National Authority. If, as recommended, the designated agency is the Department of the Environment, then the cost centre would likely fall within the division dealing with chemicals. The

initial tasks will involve: (1) the set up of an appropriate data base for the chemicals which appear on schedules [1], [2] and [3] (and others if relevant) and on the facilities which produce them; (2) the preparation for actual inspections of relevant facilities; (3) consultations with the affected parts of the chemical industry, including the consideration of facility attachments and inspection protocols; (4) consultations with the Department of National Defence on the development of inspection protocols for military facilities; and (5) consultations with External Affairs and International Trade Canada and, initially, the CWC Preparatory Commission and, eventually, the International Authority.

Soon after authorization is received to establish the National Authority, it is assumed for the purposes of this paper that the appropriate Division within the Department of the Environment would be augmented by two full-time officer positions (a desk officer and an inspector) supported by the necessary secretarial services as well as a computer/data specialist. There also will be a need for a fairly extensive travel budget, both for travel within Canada and for foreign travel to liaise with the International Authority. These projected requirements are really quite modest in comparison to what will be required of other industrial countries, and are based on current knowledge of Canada's chemical production in relation to the notional chemical schedules under

discussion in the CWC negotiations. If the inspection net for the CWC widens to include other industrial facilities -- either via spot checks, ad hoc checks, or ad hoc inspections -- then the National Authority personnel and travel costs will increase commensurately.

After entry-into-force of the CWC, External Affairs and International Trade Canada will have costs associated with its interactions with the International Authority in addition to its co-chairmanship of and participation as a member of the National Authority. There will be a need to have representatives accredited to the CWC Consultative Committee (the "committee of the whole"). While this body will eventually meet on an annual basis to review past performance and to consider new business, it is likely that its initial meeting which will formally set up the Executive Council, the Technical Secretariat, rules of procedure, and so on, could be protracted. Apart from these foreseeable requirements, there is also the possibility that short-notice unscheduled meetings could be called to deal with exceptional matters or events. If Canada were to become a member of the Executive Council (likely to involve a rotational membership), then its representatives will almost certainly be required in continuous session and, in any event, need to be available at a moment's notice. Nevertheless, even if Canada is not a

member of the Executive Council, there will be a need for continuous reporting on its activities to Ottawa from wherever the International Authority's headquarters are situated.

In Ottawa, the responsibility for international diplomatic and legal matters related to the Chemical Weapons Convention will be assigned to the appropriate divisions of External Affairs and International Trade Canada. In addition, these divisions will have to liaise with the Department of the Environment, approve the designation of international inspectors and provide personnel for other related tasks overseas. It is likely that this would take up all of one desk officer's time and part of a legal officer's time, and so a minimum (initially) of one person year would have to be assigned with appropriate secretarial assistance. Travel within Canada and abroad will be required.

Given the variety of legal issues which could arise, it is expected that lawyers of the Department of Justice, External Affairs and International Trade Canada, and Environment will all be engaged at some time, but we are assuming the Ottawa workload can be handled by existing staff.

Table 4Projected Requirements/CostsPreparatory Commission (Geneva, three years)

Two diplomatic positions (External Affairs)

One technical expert (DND)

One legal expert (External Affairs)

Secretarial support (External Affairs)

Travel costs (External Affairs)

Post Preparatory Commission (Geneva?)

Two diplomatic positions (External Affairs)

Secretarial Support (External Affairs)

Travel Costs (External Affairs)

Department of Environment (Ottawa)

One Desk Officer

One Inspector

Computer/data specialist (part-time)

Secretarial support

Travel costs

External Affairs and International Trade Canada (Ottawa)

One Desk Officer

Secretarial support

Travel costs

STATE PARTY OBLIGATIONS UNDER
ROLLING TEXT (CD/874) IN POINT FORM

1. ARTICLE III.

Not later than 30 days after entry-into-force:

- (i) submit declarations on chemical weapons;
- (ii) submit declarations on chemical weapons production facilities; and
- (iii) submit declarations on other facilities/establishments inter alia laboratories, test and evaluation sites.

2. ARTICLE IV.

Not later than within 30 days after entry-into-force:

- (i) submit declaration on chemical weapons;
- (ii) submit declaration on transfer or receipt of chemical weapon since [1 January 1946] or [26 March 1975];
- (iii) submit general plan for destruction; and
- (iv) immediately after declaration, provide for on-site inspection.

Not later than 6 months after entry-into-force:

- (v) submit detailed plans for destruction of chemical weapons;

Not later than 12 months after entry-into-force:

- (vi) commence destruction of CW.

Annually:

- (vii) provide information on the implementation of its destruction plans;

Not later than 30 days after completion of each phase of the destruction process:

- (viii) certify that all chemical weapons have been destroyed.

On a continuing basis:

- (ix) provide access to its destruction and chemical weapons storage facilities for on-site inspection and instrumental monitoring;

As required:

- (x) use the established format for all submissions related to declarations, plans and other information.

3. ARTICLE V.

Immediately:

- (i) cease all activity at a chemical weapons production facility (CWPF) except that required for closure.

Not later than 30 days after entry-into-force:

- (ii) submit declarations on any CWPF since 1 January 1946
- (iii) submit declarations on transfer or receipt of equipment for CWPF since 1 January 1946
- (iv) submit specific action for closure;
- (v) submit general plan for destruction;
- (vi) if applicable, submit general plan for temporary conversion;
- (vii) immediately after declaration, provide for on-site inspection.

Not later than 3 months after entry-into-force:

- (viii) close any CWPF in a manner that renders it inoperable;
- (ix) provide access subsequent to closure for on-site inspection and for continuous monitoring by instruments.

Not later than [3][6] months after entry-into-force:

- (x) submit detailed plans for destruction of CWPF.

Not later than 12 months after entry-into-force:

- (xi) begin destruction of CWPF.

Not later than 10 years after entry-into-force:

(xii) complete destruction of CWPF.

Annually:

(xiii) provide information regarding the implementation process for destruction.

Not later than 30 days after destruction of each CWPF:

(xiv) certify that the CWPF has been destroyed.
In regard to temporary conversion of a CWPF:

(xv) such a facility may be converted temporarily for the purpose of destruction of chemical weapons but must be destroyed not later than 10 years after entry into force of the Convention.

On a continuing basis:

(xvi) provide access to all CWPF for the purposes of monitoring by instruments and by on-site inspection.

As required:

(xvii) use the established format for all submissions related to declarations, plans and other information.

4. ARTICLE VI

On a continuing basis:

- (i) ensure that toxic chemicals and their precursors are not used for purposes prohibited by the Convention;
- (ii) take necessary measures to ensure that toxic chemicals and their precursors shall be subject to international monitoring as provided in:
 - schedule [1] Super Toxic Lethal Chemicals (STLCs);
 - schedule [2] Key Precursors;
 - schedule [3] Chemical produced in large commercial quantities; and
 - schedule [...] Production of STLCs not listed in Schedule [1].

As required:

- (iii) participate in the revision of schedules in accordance with Annex to Article VI [0].

Not later than 30 days after entry-into-force:

- (iv) provide data on chemicals and facilities as required in accordance with schedules [1], [2], [3] and [...].

Annually:

- (vii) submit declarations on chemicals and facilities in accordance with schedules [1], [2], [3] and [...].

the relevant chemicals and facilities:

- (vi) Schedules will be subjected to the measures contained in the relevant annex;
 - [1] to declarations, on-site verification, on-site instruments, etc.;
 - [2] to data reporting and on-site inspection;
 - [3] to data reporting;
 - [...] to data reporting and on-site inspection;

provide access for:

- (vii) facilities as required in the annexes.

5. ARTICLE VII

Adopt:

- (i) any measure necessary to implement this Convention;
- (ii) prohibit and prevent any activity prohibited by this Convention;

designate or establish:

- (iii) a National Authority;

inform:

- (iv) the Consultative Committee concerning the National Authority and other legislative and administrative measures taken;

undertake to cooperate with:

- the Consultative Committee in assistance for international on-site inspections;
- data reporting;
- response to request for the provision of expertise, information and laboratory support.

6. ARTICLE VIII

The Consultative Committee shall:

- (i) consist of all States Parties, and its first meeting shall be convened not later than 30 days after entry into force of Convention and shall thereafter meet annually.

The Executive Council shall:

- (ii) cooperate with the appropriate National Authorities;
- (iii) facilitate consultative and cooperation among States Parties;
- (iv) inform States Parties on any issue before it;
- (v) conclude agreements with States Parties; and
- (vi) approve implementation agreements negotiated by the Director General.

The Technical Secretariat shall:

- (vii) address and receive communications to and from States Parties;
- (viii) negotiate subsidiary agreements with States Parties; and
- (ix) inform the Executive Council of problems it is unable to resolve through its consultations with States Parties.

Each State Party shall:

- (x) agree to respect the exclusively international character of the Director General and other members of staff.

7. ARTICLE IX

States Parties shall:

- (i) consult and cooperate on matters relating to the implementation of this Convention;
- (ii) make every effort to resolve doubts about compliance through exchange of information;
- (iii) have the right to obtain the assistance of the Executive Council on matters which give rise to doubts concerning compliance of another State Party; and
- (iv) upon request of the Executive Council, provide the clarification requested.

If the requesting State Party deems the clarification to be inadequate, it may:

- (v) request the Executive Council to obtain further clarification; and
- (vi) subsequently request a special meeting of the Executive Council.

A State Party shall:

- (vii) have the right to request the Executive Council to assist it in clarifying doubts about its compliance.

APPENDIX II

PERTINENT ASPECTS OF CANADIAN ENVIRONMENTAL PROTECTION ACT

An Act respecting the protection of the environment and of human life and health or Canadian Environmental Protection Act.

It would appear that this Act provides a Canadian framework which could be used to develop ideas with respect to a National Authority and the obligation under a CWC to report on certain chemicals which have been used as chemical weapons, which are potential key precursors in the synthesis of chemical weapons, or which pose a risk to the objectives of the Convention.

The Act defines the following terms: analysis, class of substance, inspector, substance, transient reaction intermediate.

The following sections are pertinent to CWC objectives:

11. toxic substances - definition;
12. Priority Substance List;
16. where a person (a) imports, manufacturers, transports, processes or distributes a substance for commercial purposes;
22. non-disclosure by the Minister of National Defence;
24. Domestic Substances List and Non-Domestic Substances List;
25. manufacture or import of substances;
29. amendment of Lists;
31. regulations;
32. regulations of toxic substances - schedule I;
33. regulations - schedule I;
40. export and import of toxic substances and waste materials - Schedule II;
41. List of toxic substances requiring export notification
- list of toxic substances authorities;
98. designation of inspectors and analysts;

99. inspector (also 101, 102); and

schedule I - List of toxic substances and type of regulation applicable;

schedule II - Part I - List of Prohibited Substances
- Part II - List of toxic substances requiring export notification.

ANNEX TO ARTICLE VI (1)

SCHEDULE (1)

Provisional List*

1. O-Alkyl alkylphosphonofluoridates
 - e.g. Sarin: O-isopropyl methylphosphonofluoridate (107-44-8)
 - Soman: O-pinacolyl methylphosphonofluoridate (96-64-0)
2. O-Alkyl N,N-dialkylphosphoamidocyanidates
 - e.g. Tabun: O-ethyl N, N-dimethylphosphoramidocyanidate (77-81-6)
3. O-Alkyl S-2-dialkylaminoethylalkylphosphonothiolates
 - e.g. VX: O-ethyl S-2-diisopropylaminoethylmethylphosphonothiolate (50782-69-9)
4. Sulphur mustards:
 - e.g. Mustard gas (H): bis (2-chloroethyl) sulphide (505-60-2)
 - Sesquimustard (Q): 1,2-bis (2-chloroethylthio) ethane (3563-36-8)
 - O-Mustard (T): bis(2-chloroethylthioethyl) ether (63918-89-8)
5. Lewisites
 - Lewisite 1: 2-chlorovinyl dichloroarsine (541-25-3)
 - Lewisite 2: bis (2-chlorovinyl) chloroarsine (40334-69-8)
 - Lewisite 3: tris (2-chlorovinyl) arsine (40334-70-1)
6. Nitrogen mustards
 - HN1: bis (2-chloroethyl) ethylamine (538-07-8)
 - HN2: bis (2-chloroethyl) methylamine (51-75-2)
 - HN3: tris (2-chloroethyl) amine (555-77-1)
7. 3-Quinuclidinyl benzilate (BZ) (6581-06-2)
8. Alkylphosphonyldifluorides
 - e.g. DF (676-99-3)

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

9. Ethyl O-2-diisopropylaminoethyl alkylphosphonites
e.g. QL

(57856-11-8)

To be discussed further

1. Saxitoxin
2. 3,3-Dimethylbutan-ol (Pinacolyl alcohol)
3. CS
4. CR
5. Chloro Soman and chloro Sarin
6. Sulphur Mustards: to include compounds listed below.
2-chloroethylchloromethylsulphide
bis (2-chloroethyl) sulphone
bis (2-chloroethylthio) methane
1,3-bis (2-chloroethylthio) -n-propane
1,4-bis (2-chloroethylthio) -n-butane

ANNEX TO ARTICLE VI [2]
SCHEDULE [2]

Provisional List

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

To be discussed further

- (1) The following compounds:

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

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

(No. 5): 2-phenyl-2-(phenyl, cyclohexyl, cyclopentyl or cyclobutyl) -2-hydroxyacetic acids and their methyl, ethyl, n-propyl and iso-propyl esters

(No. 6): 3- or 4-hydroxypiperidine and their [derivatives] and [analogs]

(Nos. 7,8,9): N,N-Disubstituted aminoethyl-2-halides
N,N-Disubstituted aminoethan-2-ols
N,N-disubstituted aminoethane-2-thiols

ANNEX TO ARTICLE VI [3]

SCHEDULE [3]

Phosgene	(75-44-5)
Cyanogen chloride	(506-77-4)
Hydrogen cyanide	(74-90-8)
Trichloronitromethane (chloropicrin)	(76-06-2)
Phosphorus oxychloride	(10025-87-3)
Phosphorus trichloride	(7719-12-2)
Di- and Trimethyl/Ethyl Esters of Phosphorus (P III) Acid:	
Trimethyl phosphite	(121-45-9)
Triethyl phosphite	(122-52-1)
Dimethyl phosphite	(868-85-9)
Diethyl phosphite	(762-04-9)
Sulphur monochloride	(19925-67-9)
Sulphur dichloride	(19545-99-0)

MODELS FOR AGREEMENTS

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

1. Identification of the facility

- (a) Facility identification code;
- (b) Name of the facility;
- (c) Owner(s) of the facility;
- (d) Name of the company or enterprise operating the facility;
- (e) Exact location of the facility
 - . Location of the complex
 - . Location of the facility within the complex, including the specific building and structure number, if any
 - . Location of relevant support facilities within the complex: e.g., research and technical services, laboratories, medical centres, waste treatment plants
- (f) Determination of the area(s) and place(s)/site(s) to which inspectors shall have access.

2. Information on the facility

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

- (a) Data on the production process (type of process: e.g., continuous or batch; type of equipment; the technology employed; process engineering particulars)

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

- (b) Data on processing with conversion into another chemical (description of the conversion process, process engineering particulars and end-product)
- (c) Data on processing without chemical conversion (process engineering particulars, description of the process and the end-product, concentration in the end-product)
- (d) Data on waste treatment (disposal and/or storage, waste treatment technology, recycling)
- (e) Data on safety and health measures at the facility
- (f) Data on clean-up procedures and general overhauls
- (g) Data on feedstocks used in the production or processing of declared chemicals (type and capacity of storage)
- (h) Maps and plans of the facility, including data on infrastructure for transportation (site maps showing, for example, all buildings and functions, pipework, roads, fences, mains electricity, water and gas points, and diagrams indicating the relevant material flow at the designated facility).

2.1. Storage of information

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

3. Number and modalities of inspections

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

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

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

*The question of which organ(s) of the Organization should be entrusted with this task should be considered further.

- (b) identification of key points for measurement (KMP) and sample-taking (STP)
- (c) identification of methods for continuous monitoring and surveillance, e.g.
 - . key points for the application of monitoring and surveillance measures
 - . installed instruments and devices, seals and markers, methods to check the proper functioning of those instruments, servicing of installed instruments
 - . activities to be undertaken by the State Party concerned with a view to providing the conditions necessary for the installation and proper functioning of the devices
- (d) Certification of relevant losses within the production process and their implications for key measurement points (KMP)

5. Inspection activities

5.1. Mode of routine inspection

To be developed on the basis of the initial visit.

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

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

- (a) Examination of relevant records
- (b) Identification of relevant plant equipment
- (c) Identification and validation of measuring equipment (examination and calibration of measuring equipment verification of measuring systems using, as appropriate, independent standards)
- (d) Taking of analytical samples
- (e) Verification of chemical inventory records
 - . verification of the operator's inventory-taking for completeness and accuracy
 - . verification of the quantities of feedstocks

- (f) Observation of operations relating to movement of chemical substances in the plant
- (g) Installation, servicing and review of surveillance and monitoring instruments
- (h) .
.
.

5.3. Specific arrangements for the use of special equipment

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

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

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

7. Records

7.1 Type of records

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

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

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

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

(c) Calibration records

Information on the functioning of analytical/monitoring equipment.

7.2. Location and language of records

To be determined during the initial visit.

7.3. Access to records

To be determined after the initial visit.

7.4. Retention period of records

To be determined on the basis of the initial visit.

8. Services to be provided by the facility

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

- . operator assistance
- . medical and health services

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

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

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

11. Interpretation services

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

Proposal by the Co-ordinator of Cluster IV for the 1987 session

1. Information on the single small-scale production facility

(a) Identification

- (i) Facility identification code
- (ii) Name of the facility
- (iii) Exact location of the facility

If the facility is located within a complex, then also

- . Location of the complex
- . Location of the facility within the complex, including the specific building and structure number, if any
- . Location of relevant support facilities within the complex, e.g. research and technical services, laboratories, medical centres, waste treatment plants
- . Determination of the area(s) and place(s)/site(s) to which inspectors shall have access

(b) Detailed technical information:

- (i) Maps and plans of the facility, including site maps showing, with functions indicated, for example, all buildings, pipework, road, fences, mains electricity, water and gas points, diagrams indicating the relevant material flow at the designated facility and data on infrastructure for transportation
- (ii) Data on each production process (type of process, type of equipment, technology employed, production capacity, process engineering particulars)

* Prepared by Lt. Col. Bretfeld, German Democratic Republic; Dr. Cooper, United Kingdom; Dr. Lau, Sweden; and Dr. Santesson, Sweden.

- (iii) Data on the feedstocks used (type of feedstock, storage capacity)
- (iv) Data on the storage of the chemicals produced (type and capacity of storage)
- (v) Data on waste treatment (disposal and/or storage, waste treatment technology, recycling)
- (c) Specific facility health and safety procedures to be observed by inspectors
- (d) Dates
 - (i) date when the initial visit took place
 - (ii) date(s) when additional information was provided
- (e) Storage of information

Identification of which information, provided about the facility under paragraph 1, shall be kept by the Technical Secretariat under lock and key at the facility.

2. Number and modalities of inspections

The number and modalities of inspections shall be decided by the Technical Secretariat on the basis of guidelines.

3. Inspections

On-site inspection activities may include, but shall not necessarily be restricted to, the following:

- (i) Observation of any and all activities at the facility
- (ii) Examination of any and all equipment at the facility
- (iii) Identification of technological changes in the production process
- (iv) Comparison of process parameters with those ascertained during the initial visit
- (v) Verification of chemical inventory records
- (vi) Verification of equipment inventory records

- (vii) Review, servicing and maintenance of monitoring equipment
- (viii) Identification and validation of measuring equipment (examination and calibration of measuring equipment, verification of measuring systems using, as appropriate, independent standards)
- (ix) Application, examination, removal and renewal of seals
- (x) Investigation of indicated irregularities.

4. Monitoring system

- (a) Description of items and their location
 - (i) Sensors and other instruments
 - (ii) Data transmission system
 - (iii) Ancillary equipment
 - (iv) ...
- (b) Installation of the system:
 - (i) Time schedule
 - (ii) Advance preparations
 - (iii) Assistance to be provided by the State Party during installation
- (c) Activation, initial testing and certification
- (d) Operation
 - (i) Regular operation
 - (ii) Routine tests
 - (iii) Service and maintenance
 - (iv) Measures in case of malfunctions
 - (v) Responsibilities of the State Party
- (e) Replacement, modernization

5. Temporary closure

- (a) Notification procedure
- (b) Description of the types of seals to be used
- (c) Description of how and where seals shall be fixed
- (d) Provisions for surveillance and monitoring

6. Instruments and other equipment to be used during inspections

- (a) Instruments and other equipment installed or brought in by inspectors
 - (i) Description
 - (ii) Testing, calibration and examination by the State Party
 - (iii) Use
- (b) Instruments and other equipment to be provided by the State Party
 - (i) Description
 - (ii) Testing, calibration and examination by inspectors
 - (iii) Use and maintenance

7. Sample-taking, on-site analyses of samples and on-site analysis equipment

- (a) Sample-taking from production
- (b) Sample-taking from stocks
- (c) Other sample-taking
- (d) Duplicates and additional samples
- (e) On-site analyses (e.g., provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)

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

- (a) Accounting records;
- (b) operating records;
- (c) calibration records.

The following shall be determined on the basis of the initial visits:

- (a) Location and language of records
- (b) Access to records
- (c) Retention period of records

9. Administrative arrangements

- (a) Preparations for the arrival and departure of inspectors
- (b) Transport of inspectors
- (c) Accommodation for inspectors
- (d) ...

10. Services to be provided*

Such services may include, but shall not necessarily be restricted to, the following:

- (a) Medical and health services
- (b) Office space for inspectors
- (c) Laboratory space for inspectors
- (d) Technical assistance
- (e) Telephone and telex
- (f) Power and cooling water supplies for instruments
- (g) Interpretation services

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

For each type of service, the following information shall be included:

- (a) The extent to which that service shall be provided
- (b) Points of contact at the facility for the service

11. Other matters

12. Revisions of the agreement

C. MODEL FOR AN AGREEMENT RELATING TO CHEMICAL WEAPONS
STORAGE FACILITIES*

Proposal by the Co-ordinator of Cluster IV for the 1987
session

1. Information on the storage facility

(a) Identification:

- (i) Storage facility identification code
- (ii) Name of the storage facility
- (iii) Exact location of the storage facility

(b) Dates:

- (i) Date of the initial verification of the Declaration of the facility
- (ii) Date(s) additional information provided

(c) Layout:

- (i) Maps and plans of the facility, including
 - . boundary map to show entrances, exits, nature of boundary (e.g. fence);
 - . site maps to include locations of all buildings and other structures, bunkers/storage areas, fences with access points indicated, mains electricity and water points, and infrastructure for transports including loading areas;
- (ii) Details of the construction of bunkers/storage areas which might be of relevance for verification measures;
- (iii) ...

(d) Detailed inventory of the contents of each bunker/storage area;

(e) Specific facility health and safety procedures to be observed by inspectors.

*Prepared by Lt. Col. Bretfeld, German Democratic Republic;
Dr. Cooper, United Kingdom; Dr. Lau, Sweden; and
Dr. Santesson, Sweden.

2. Information relating to the transport of chemical weapons from the facility

- (a) Detailed description of loading area(s);
- (b) Detailed description of loading procedures;
- (c) Type of transport to be used, including construction details relevant to verification activities, e.g. where to place seals;
- (d) ...

3. Number and modalities of systematic inspections, etc.

The number and modalities of systematic inspections will be decided by the Technical Secretariat on the basis of guidelines.

4. Inspections

(a) Systematic on-site inspections

Systematic on-site inspections may include, but are not necessarily restricted to, the following:

- (i) Application, examination, removal and renewal of seals;
- (ii) Review, servicing and maintenance of monitoring equipment;
- (iii) Verification of the inventory of randomly selected sealed bunkers/storage areas.

. Percentage of bunkers/storage areas to be verified during each systematic on-site inspection.

(b) On-site inspections of transports from the facility

On-site inspections of transports of chemical weapons from the storage facility may include, but are not necessarily restricted to, the following:

- (i) Application, examination, removal and renewal of any seals relevant to the transportation of chemical weapons;

- (ii) Verification of the inventory to bunkers/storage areas from which chemical weapons are to be transported;
 - (iii) Observation of the loading procedure and verification of items loaded;
 - (iv) Adjustment/realignment of the coverage of the monitoring system.
- (c) Inspections to resolve indicated irregularities (ad hoc inspections)

Ad hoc inspection activities may include, but are not necessarily restricted to, the following:

- (i) Investigation of indicated irregularities;
 - (ii) Examination, removal and renewal of seals;
 - (iii) Verification as required of the inventory of bunkers/storage areas.
- (d) Continuous presence of inspectors

The activities of continuously present inspectors may include, but are not necessarily restricted to, the following:

- (i) Application, examination, removal and renewal of seals;
- (ii) Verification of the inventory of any selected sealed bunkers/storage areas;
- (iii) Observation of any and all activities at the storage facility, including any handling of stored chemical weapons for the purpose of transport from the storage facility.

5. Seals and markers

- (a) Description of types and seals and markers
- (b) How and where seals are to be fixed.

6. Monitoring system

- (a) Description of items and their locations:
 - (i) Sensors and other instruments;

- (ii) Data transmission system;
 - (iii) Ancillary equipment;
 - (iv) ...
 - (b) Installation:
 - (i) Time schedule;
 - (ii) Advance preparations at the storage facility;
 - (iii) Assistance to be provided by the State Party during installation.
 - (c) Activation, initial testing and certification
 - (d) Operation:
 - (i) Regular operation;
 - (ii) Routine tests;
 - (iii) Service and maintenance;
 - (iv) Measures in case of malfunctions;
 - (v) Responsibilities of the State Party.
 - (e) Replacements, modernizations
 - (f) Dismantling and removal
7. Provisions governing instruments and other equipment to be used during inspections
- (a) Instruments and other equipment brought in by inspectors:
 - (i) Description;
 - (ii) Testing, calibration and examination by the State Party;
 - (iii) Routine use.
 - (b) Instruments and other equipment to be provided by the State Party:
 - (i) Description;

- (ii) Testing, calibration and examination by inspectors;
- (iii) Routine use and maintenance.

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

- (a) Sample-taking from munitions, notably the standardization of methods for each different type of munition present at the facility
- (b) Sample-taking from bulk stocks
- (c) Other sample-taking
- (d) Duplicates and additional samples
- (e) On-site analyses (e.g., provisions concerning on-site/in-house analyses, analytical methods, equipment, precision and accuracy of analyses)

9. Administrative arrangements

- (a) Preparations for arrival of inspectors
- (b) Transport for inspectors
- (c) Accommodation for inspectors
- (d) ...

10. Services to be provided*

Such services should include, but are not necessarily restricted to, the following:

- medical and health services;
- office space for inspectors;
- laboratory space for inspectors;
- technical assistance;
- telephone and telex;
- power and cooling water supplies for instruments;
- interpretation services.

For each type of service, the following information should be included:

- the extent to which that service is to be provided;
- point of contact at the facility for the service.

11. Amendments and revisions of the agreement

(e.g. changes in loading procedures, types of transport, analytical methods)

12. Other matters

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

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