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THE CHEMICAL WEAPONS CONVENTION

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Mr. HELMS, from the Committee on Foreign Relations, submitted the following

REPORT

together with

MAJORITY and MINORITY VIEWS

[To accompany Treaty Doc. 103–21]

The Committee on Foreign Relations, to which was referred the Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, opened for signature and signed by the United States at Paris on January 13, 1993, including the following documents, which are integral parts thereof: the Annex on Chemicals; the Annex on Implementation and Verification; and the Annex on the Protection of Confidential Information, having considered the same, reports favorably thereon and recommends that the Senate give its advice and consent to ratification thereof subject to 7 conditions and 11 declarations as set forth in this report and the accompanying resolution of ratification.

CONTENTS

		Page
I.	Purpose	2
II.	Treaty Terms	2
III.	Treaty Obligations	7
IV.	Background	12
V.	Committee Action	17
VI.	Resolution of Ratification	19
VII.	Article-by-Article Analysis	32
VIII.	Majority Views	162
IX.	Minority Views	241

27–027

I. Purpose

The purpose of the Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (The Chemical Weapons Convention or "CWC") is to create a global ban on the use, development, production, acquisition, stockpiling, or transfer of chemical weapons. The Convention seeks to reinforce the international norm against the use of chemical weapons by reaffirming and building upon the principles, objectives, and obligations assumed under two other international agreements: (1) the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare; and (2) the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, or the Biological Weapons Convention (BWC).

The United States has been engaged in negotiations for the elimination of weapons for chemical and biological warfare for more than 70 years. The Geneva Protocol and the BWC are the two basic treaties now in force. Most countries, including the United States, are parties to both. The Geneva Protocol of 1925 prohibits the use in war by a Party against another Party of chemical and biological weapons, but places no restriction on production or possession of such weapons. In addition, reservations attached to the Protocol by many countries, including the United States, preserve the right to use chemical weapons in retaliation. The Biological Weapons Convention, on the other hand, outlaws the development, production, stockpiling, acquisition, or retention of biological and toxin weapons and provides for their destruction. (Toxins are considered both chemical and biological weapons in that they are biologically derived but act in a chemical manner. Thus, toxins are also covered by the Chemical Weapons Convention.) However, the BWC does not contain verification provisions. The administration is currently working with other nations to expand the BWC drawing upon the verification regime contained in the CWC.

As noted, the CWC goes beyond both the 1925 Geneva Protocol and the BWC by prohibiting any use of chemical weapons in war—including retaliatory use—as well as military preparations for the use of chemical weapons, and by establishing a verification regime to monitor compliance with the Convention. The CWC requires member states to declare all of their existing chemical weapons and chemical weapons storage and production facilities, requires their indigenous commercial chemical industries to declare their production activities and to allow an international inspectorate to examine those declarations and to have access to both military and commercial facilities, and to completely eliminate all of their chemical weapons within 10 years of the Convention's entry into force. The goals of the CWC are to eliminate the possession of chemical weapons, to reverse chemical weapons proliferation, and to preclude any future use of these weapons.

II. Treaty Terms

The Chemical Weapons Convention consists of the main Treaty text and three annexes, together with two documents, formally

transmitted to the Senate by the President on November 23, 1993, for the Senate's advice and consent to ratification. The CWC is a treaty with a preamble and 24 Articles with an unlimited duration, and three annexes as follows:

the Annex on Chemicals;

the Annex on Implementation and Verification (the "Verification Annex"); and

the Annex on the Protection of Confidential Information (the "Confidentiality Annex").

The President also transmitted documents associated with, but not integral parts of, the Annexes or the Chemical Weapons Convention. These documents embody legally binding commitments regarding the establishment of the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons, and on privileges, immunities, practical arrangements, and commitments undertaken with respect to the hosting of the Preparatory Commission. These documents are relevant to the consideration of the CWC by the Senate. No new U.S. security assurances or guarantees are associated with any of these documents.

A. THE TREATY TEXT

Article I contains the principal obligations undertaken by countries that become parties to the Convention. Parties are prohibited from:

(a) Developing, producing, otherwise acquiring, stockpiling or retaining chemical weapons or transferring them, directly or indirectly, to anyone;

(b) Using chemical weapons under any circumstances, including retaliatory use;

(c) Engaging in any military preparations to use chemical weapons or assisting, encouraging, or inducing anyone to engage in any activity prohibited by the CWC; and

(d) Using riot control agents as a "method of warfare."

Article II provides the definitions used in the Articles and Annexes and the criteria used to determine what is included within the scope of the Convention's controls. The definition of "chemical weapons" is specifically broad to encompass all known, unknown and future toxic chemicals, so that novel, as well as traditional chemical agents, will be prohibited in types and quantities that cannot be justified for permitted purposes. Article II also defines what is meant by the phrase "purposes not prohibited under this Convention." (Additional definitions are found in paragraph 1 of Article X, Part I of the Verification Annex, and paragraph 12 of Part IV(A) of the Verification Annex.)

Article III requires all States Parties to declare whether or not they possess chemical weapons, including old and/or abandoned chemical weapons, chemical weapons production facilities and facilities or establishments that have been designed, constructed or used primarily for chemical weapons since January 1, 1946. States Parties are also required to report any chemical weapons on its territory that are owned and possessed by another State and located in any place under the jurisdiction or control of another State. Article III also requires States to declare any shipments, direct or indi-

rect, of any chemical weapons, or chemical weapons production equipment, to or from its territory since January 1, 1946.

Article IV describes the obligations of States Parties regarding destruction of chemical weapons, including the scope of the obligation, verification procedures, destruction, reporting of destruction activities, safety and environmental standards for destruction, bilateral and multilateral verification arrangements and costs of verification and destruction. Article IV also specifies that duplication of bilateral verification activities should be avoided, provided that the bilateral efforts are consistent with the Convention's provisions and that the States Parties involved keep the Organization fully informed of their verification activities. This provision was added to limit the duplicative cost of verification in instances in which States are already planning bilateral destruction and verification activities, namely between the United States and the Russian Federation.

Article V describes the obligation by States Parties to destroy chemical weapons production facilities. This article specifies that each State Party immediately cease all production of chemical weapons and that all chemical weapon production facilities must be closed within 90 days of the Convention's entry into force for a State Party. Each State Party is responsible for the destruction of all chemical weapons production facilities on its territory or any other place under its jurisdiction or control, regardless of ownership. As with Article IV, this article specifies that duplication of verification efforts of bilateral or multilateral arrangements should be avoided as long as those bilateral or multilateral arrangements are consistent with the Convention's requirements.

Article VI describes activities that are not prohibited under the Convention. It establishes an international verification regime for States Parties' chemical industries in order to allow legitimate commercial chemical production while guarding against clandestine chemical weapon production. Article VI also states that the Technical Secretariat shall avoid undue intrusion into the State Party's chemical activities while conducting verification activities. Further, the article applies the prohibition on hampering a State Party's economic or technological development in Article XI specifically to chemical industry verification.

Article VII requires States Parties to develop implementing legislation. This is to make sure that private individuals and nongovernmental organizations anywhere on a State Party's territory or under its jurisdiction are prohibited from the same activities as the State Party. Article VII requires each State Party to establish or designate a National Authority to be the national focal point for liaison with the Organization and other States Parties. Article VII also requires each State Party to treat all information and data received from the Organization as confidential to protect information gathered during inspections from being used for purposes not related to the Convention, such as for commercial advantage.

Article VIII establishes the Organization for the Prohibition of Chemical Weapons, the Conference of the States Parties, the Executive Council and the Technical Secretariat, and details the general provisions regarding the Organization. This article also sets forth the rules for financing the Organization.

Article IX gives States Parties the right to request challenge inspections. However, Article IX also declares that States Parties should, whenever possible, first make every effort to clarify and resolve any compliance issues before requesting an inspection. The State Party receiving the request is required to provide sufficient information to clarify the concern to the requesting State Party as soon as possible, but in any case within 10 days of receiving the request. Article IX also requires an inspected State Party to make every reasonable effort to allow the inspection team to fulfill its mandate, while giving the inspected party the right to prevent disclosure of confidential information and data not related to the Convention. Article IX also gives the Executive Council the power, in limited circumstances, to cancel an inspection if it considers the inspection request to be frivolous, abusive, or clearly beyond the scope of the Convention.

Article X establishes procedures for assistance to States Parties that are attacked or threatened with the attack by chemical weapons. "Assistance" is defined as the coordination and delivery to the threatened State Party of protection against chemical weapons, including detection equipment, protective equipment, decontamination equipment, medical antidotes and advice on any of these measures. Article X also gives States Parties the right to chemical weapons defenses, as long as they are for purposes not prohibited under the Convention. States Parties can choose the type of assistance they wish to provide.

Article XI seeks to balance free trade in legitimate chemicals with preventing the proliferation of chemical weapons. This article sets the broad principle that the Convention should not be implemented in a manner that hampers the economic and technological development of States Parties or international cooperation in chemical activities for purposes not prohibited under the Convention.

Article XII sets forth general measures that may be taken to address noncompliance. These measures include the possibility of restricting or suspending a State Party's rights and privileges, recommending sanctions, or bringing the issue before the United Nations.

Article XIII states that nothing in the Convention shall limit or detract from any obligations assumed by a State under the Geneva Protocol of 1925 or the Biological Weapons Convention.

Article XIV sets general mechanisms for settling disputes between States Parties or between the States Parties and the Organization.

Article XV provides two methods for modifying the Convention: a formal amendment process and a "simplified" procedure for making minor administrative or technical changes which is listed to most provisions of the Annexes. The former requires ratification by States Parties without dissent and the latter requires neither ratification nor consensus.

Article XVI states that the Convention shall be of unlimited duration and sets forth the conditions for withdrawal.

Article XVII states that the Annexes form an integral part of the Convention and that any reference to the Convention includes the Annexes. The purpose of this article is to make clear that the Annexes have the same legal status as the Articles to the Convention.

Article XVIII states that the Convention shall be open for signature for all States before its entry into force in order to allow for universal acceptance of the Convention.

Article XIX states that the Convention shall be subject to ratification by States Signatories according to their respective constitutional processes.

Article XX states that any State which does not sign the Convention prior to its entry into force may sign it at any time thereafter.

Article XXI sets the date for the Convention's entry into force. This article specifies that the Convention shall enter into force 180 days after the date of the deposit of the 65th instrument of ratification, but not earlier than 2 years after its opening for signature. Article XXI also specifies that the States who sign the Convention after its entry into force, it shall enter into force for that State on the 30th day following the date of deposit of their instrument of ratification or accession.

Article XXII states that the Articles of the Convention shall not be subject to reservations by States Parties and that any reservations to the Annexes must be compatible with the object and purpose of the Convention.

Article XXIII designates the Secretary-General of the United Nations as the depositary for the Convention and sets forth the responsibilities of the depositary.

Article XXIV states that the Arabic, Chinese, English, French, Russian, and Spanish texts of the Convention are all equally authentic and shall be deposited with the Secretary-General of the United Nations.

B. INTEGRAL ADDITIONAL DOCUMENTS

The Treaty includes other documents which the President and the Secretary indicated are "integral" parts of the Treaty, and are submitted for consideration as legally binding parts of the Treaty.

The Annex on Chemicals sets forth the criteria by which toxic chemicals and precursors are to be evaluated for inclusion in the schedules and the three Schedules of chemicals and chemical families themselves. The first part is designed so that new or currently unknown chemicals that meet the criteria may be proposed for addition to the Schedules in the future. The annex states that these Schedules do not constitute a definitive definition of chemical weapons. Schedule 1 is a list of chemicals that have actually been developed, produced, stockpiled or used as chemical weapons, chemicals that are immediate precursors to such chemical weapons and all other chemicals that are a high risk for use as chemical weapon precursors and have not significant civilian use. Schedule 2 lists toxic chemicals and their immediate precursors that are produced, typically in small quantities, for peaceful purposes by industry, but which still pose a significant risk to the objectives of the Convention because of their potential to be used as chemical weapons. Schedule 3 lists chemicals that are usually produced in large commercial quantities but which either have been used in the past for chemical weapons or pose a risk to the objectives of the Convention because of their toxicity or importance as precursors to Schedule 1 or 2 chemicals.

The Annex on Implementation and Verification details how the inspections are to be conducted by stating the guidelines to be used in the declaration, monitoring, and inspection provisions of the Convention. This annex includes definitions; general rules of verification; general provisions for verification measures for chemical weapons, chemical weapons production facilities, and permitted Schedule 1 production; specific provisions for destruction and verification of destruction of chemical weapons; specific provisions for destruction or conversion, and verification of destruction or conversion, or chemical weapons production facilities; specific provisions regarding permitted production and use of Schedule 1 chemicals; specific provisions for declaration and verification of Schedule 2 and Schedule 3 chemicals and related facilities; specific provisions for declaration and anticipated verification of other chemical production facilities; procedures for challenge inspections; and procedures for investigations of alleged use on chemical weapons.

The Annex on the Protection of Confidential Information obliges the Organization, the inspectors and the inspection observers not to reveal information gathered in the course of an inspection that is not relevant to a violation of the Convention.

C. ASSOCIATED DOCUMENTS

Associated with the CWC are two separate document and three annexes to the documents. The Resolution Establishing the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons was adopted by the conference on Disarmament at Geneva on September 3, 1992. The Resolution approves the Text on the Establishment of a Preparatory Commission. The Text on the Establishment of a Preparatory Commission (and its Three Annexes) sets forth the details on arranging the Preparatory Commission.

III. TREATY OBLIGATIONS

DESTRUCTION OBLIGATIONS

The Convention obligates each State Party to destroy all of its chemical weapons, and chemical weapons it abandoned on the territory of another State Party, and all of its chemical weapons production facilities. The CWC outlines a destruction schedule in specified categories of chemical weapons and requires completion of the destruction process by 10 years after the Convention's entry-into-force (EIF). The Convention does allow flexibility in the destruction process, permitting extension of the 10-year timeframe for up to 5 years.

The CWC identifies two special categories of chemical weapons—namely old chemical weapons and abandoned chemical weapons. All chemical weapons produced before 1925 may be destroyed or otherwise disposed of as "toxic waste." In the case of "old chemical weapons," the Executive Council of the international organization created to implement the CWC can modify time-limits and order of destruction for chemical weapons produced between 1925 and 1946 that have deteriorated to such an extent that they are no longer usable as chemical weapons.

With regard to "abandoned chemical weapons," the abandoning State Party is required to provide all necessary financial, technical, expert, facility and other resources to ensure appropriate destruction or disposal. The 10-year destruction time-line applies, through the Executive Council may approve the modification or suspension of the time-limits and/or order of destruction.

All chemical weapons that do not fall into these categories will be subject to the full verification and destruction regimes of the CWC. Chemical weapons are broadly defined by Article II the CWC to be:

(a) Toxic chemicals—any chemical which through chemical action on life processes can case death, temporary incapacitation or permanent harm to humans or animals—and their precursors, except when used for:

(i) Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;

(ii) Purposes directly related to protection against toxic chemicals and to protection against chemical weapons;

(iii) Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare; and

(iv) Law enforcement, including some domestic riot control purposes.

(b) Munitions and devices specifically designed to release toxic chemicals; and

(c) Any equipment specifically designed for use directly in connection with the employment of those munitions or devices.

The CWC also requires the destruction of chemical weapons production facilities within 10 years of EIF. However, chemical weapons production facilities may be converted temporarily for use as destruction facilities. In addition, States Parties may request approval from the Conference to convert chemical weapons production facilities to purposes not prohibited under the Convention. Approval is contingent on the State Party's acceptance of conditions specified in the CWC which, *inter alia,* preclude the use of a converted facility to produce, process, or consume Schedule 1 or 2 chemicals (with some exceptions), require the declaration of activities, provide for international monitoring of such activities, and set parameters for the conduct of such activities (e.g., very limited production of Schedule 1 chemicals for protective purposes, very limited Schedule 1 production capacity, and the use of only two Schedule 1 production facilities for protective purposes).

The CWC defines chemical weapons production facilities as any equipment, or any building housing such equipment, that was designed, constructed or used at any time since January 1, 1946:

(a) As part of the stage in the production of chemicals where the material flows would contain, when the equipment is in operation:

(i) Any Schedule 1 chemical; or

(ii) Any other chemical that has no use, above 1 metric ton per year, for purposes not prohibited under the Convention, but can be used for chemical weapons purposes; or

(b) For filling chemical weapons, devices, or bulk storage containers. This includes the filling of chemicals into containers that form part of assembled binary munitions/devices or into chemical submunitions that form part of assembled unitary munitions/devices, and the loading of the containers and chemical submunitions into the respective munitions and devices.

The CWC specifically excludes from the definition of "chemical weapons production facilities:" (1) any facility having a productive capacity of less than 1 metric ton; (2) any facility in which a scheduled chemical is or was produced as an avoidable by-product of activities for nonprohibited purposes (provided that the chemical does not exceed 3% of the total production at that facility and that the facility is subject to CWC data declarations and inspection); or (3) the single small-scale facility permitted for the production of chemicals listed in Schedule 1 for nonprohibited purposes.

The Committee notes that regardless of whether any or all specialized production equipment has been removed, prior to entry into force of the Treaty, from a facility previously used at anytime since January 1, 1946, for chemical weapons production, such a facility must be declared pursuant to Article III of the Treaty and Part V of the Verification Annex.

FINANCIAL OBLIGATIONS

Article VIII of the CWC specifies that the costs of the Organization for the Prohibition of Chemical Weapons (OPCW) that will be established to implement the CWC be paid in accordance with the United Nations scale of assessments adjusted to take into account differences in membership between the U.N. and the OPCW. According to Secretary of State Warren Christopher's April 19, 1996, responses to questions asked by the Chairman, the United States is expected to pay 24.96 percent of the OPCWs operating costs. The next five highest contributors after the United States are expected to be Japan (13.92 percent), Germany (8.93 percent), France (6.31 percent), Russia (5.67 percent), and the United Kingdom (5.26 percent).

Each State Party must also pay for the costs of destruction of its chemical weapons and for verification of the chemical weapons storage and destruction process. However, the CWC also allows for the conclusion of bilateral verification arrangements under which the parties involved assume the bilateral costs, and other members are apportioned percentages of the cost of monitoring the bilateral agreement by the international inspectorate. The United States proposed the bilateral verification provision based on a desire for direct involvement in monitoring the Russian chemical weapons destruction effort, the pre-existence of the 1990 U.S.-Russian Bilateral Destruction Agreement (BDA), and a mutual desire with the Russian Federation to minimize costs where possible.

OBLIGATIONS TO PROVIDE ASSISTANCE UNDER ARTICLE X

The CWC obligates each State Party to provide either monetary contributions to the Voluntary Fund of the OPCW, contribute protective equipment to an OPCW stockpile, or to identify assistance that will be provided upon demand or in response to an appeal by the OPCW.

The PrepCom agreed in 1993 that the Voluntary Fund would comprise monetary contributions from States Parties as well as from nongovernmental organizations, institutions, private parties, and individuals. Conditions on the use of these funds would need to be consistent with the aims and purpose of the Convention and approved by the Executive Council. The Voluntary Fund is to be used for the creation, maintenance and periodic replenishment of a stockpile of equipment for emergency assistance.

In the case of an emergency request, each State Party has the right to request and receive assistance, in general, if:

(1) chemical weapons have been used against it;

(2) riot control agents have been used against it as a "method of warfare;" or

(3) it is threatened by the actions or activities of any State that are prohibited under Article I.

The CWC defines assistance as "the co-ordination and delivery to States Parties of protection against chemical weapons." Types of assistance are further defined *inter alia* as detection equipment, alarm systems, protective equipment, medical antidotes and treatments, decontamination equipment and decontaminants, and advice on protective measures. The CWC outlines procedures for requesting assistance and the ways in which the OPCW should respond.

The Committee understands that, as a matter of practice, any request for assistance will be submitted to the Director-General who will then bring it to the attention of the Executive Council and all States Parties. States Parties that are so committed should be in a position to provide voluntary emergency assistance within 12 hours of the receipt of such a request. After the Director-General has initiated an investigation, the Executive Council will meet and decide if supplementary assistance should be provided. In cases where the investigation is not finished, but it is obvious that chemical weapons have been used, the Director-General may provide emergency assistance by using the Voluntary Fund. Under such circumstances, protective equipment from the OPCW's stockpile can be dispatched and equipment from other donor States Parties can be used.

Finally, Article X mandates that each State Party submit annual information on its national chemical weapons defense programs "for purposes of increasing the transparency of national programs related to protective purposes * * *." The extent to which countries may be required to divulge information about their defensive chemical programs is unclear, and some on the Committee find this ambiguity troubling.

The Expert Group has discussed lists of categories of information to be provided by States Parties on national programs related to protective purposes. At this stage, the Preparatory Commission for the OPCW conceptualizes mandatory data to include information on the existence and general elements of a national program, information on the training of specialists in chemical weapons protection, and information on protection units. However, final agreement has not been reached on the extent of information to be provided.

CREATION AND FUNDING OF THE ORGANIZATIONAL BODIES OF THE CWC

The Resolution Establishing the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons (OPCW) and the Text on the Establishment of a Preparatory Commission both were adopted by acclamation by Signatory States on January 13, 1993. Together they provide the basis for the Preparatory Commission for the OPCW—the organization responsible for preparing the necessary procedures for implementing the Convention and for laying the groundwork for the international organization created by the Convention.

The OPCW will consist of the following: the Conference of the States Parties, the overall governing body made up of all States Parties; a 41-member Executive Council; and the Technical Secretariat, which will be the international body responsible for actually conducting the verification activities, including the on-site inspections.

CREATION OF THE NATIONAL AUTHORITY

In ratifying the Chemical Weapons Convention, a country agrees to the basic provisions of the Convention in Article I, and to implement those obligations by taking the necessary national legal and administrative measures required by Article VII. States Parties must provide the declarations and information required under Articles I, IV, V and VI and this information will be subject to the verification provisions of these articles using the machinery of Article VIII. The State Party also agrees to accept challenge inspection under Article IX if the need arises.

While States Parties are required to take measures to adhere to the Convention, Article VII is generally worded, leaving it to individual States Parties to determine who they will implement the provisions of the Convention and comply with their obligations.

The primary function of the National Authority under the Convention is to establish a system to meet the CWC's obligations, and in so doing to minimize the disclosure of confidential business information in the process of providing information to the OPCW. Compliance with the CWC entails data-reporting on scheduled chemicals, some unscheduled discrete organic chemicals including "PSF" chemicals and on research activities under the Convention. The National Authority will be responsible for three different types of data reporting: (a) the initial declarations of the State Party after entry into force of the Convention, (b) annual data reporting and (c) reporting on anticipated activities and changes in activities reported previously. Such data must be retrievable, authorized, and assessable at the National Authority level, and will contain information on chemical trade (both export and import) for chemical listed under the Schedules.

More specifically, a U.S. National Authority would be required to:

(1) assess U.S. producers of chemicals of concern under the Convention;

(2) process data declarations by firms under Articles III, IV, V and VI;

(3) process annual declarations under Articles IV, V and VI;

(4) escort OPCW inspection teams under Articles IV, V, VI, IX and X;

(5) accredit OPCW Inspectors;

(6) develop Facility Agreements;

(7) oversee closure and destruction activities relating to chemical weapons and chemical weapons production facilities;

(8) coordinate the provision of national assistance under Article X;

(9) analyze chemical export and import activities;

(10) review national regulations in international trade in chemicals; and

(11) manage issues relating to old and abandoned chemical weapons.

Beyond this, the National Authority will be called upon to represent the United States at the Conference of States Parties, the Executive Council, and to undertake other activities. Thus the National Authority must have both a domestic and an international focus.

IV. Background

In 1925, at the Geneva Conference for the Supervision of the International Traffic in Arms, the United States proposed a prohibition on the export of gases for use in war; France broadened the proposal to include a ban on the use of poisonous gas in war. At the suggestion of Poland, the proposed prohibition was further extended to include bacteriological weapons. The result was the 1925 Geneva Protocol, which prohibits the use in war—though not internally, as in the instance of Iraqi gassing of Kurds—of chemical and biological weapons, but not the production or stockpiling of such weapons. The Committee on Foreign Relations favorably reported the treaty in 1926, but the Senate did not act on it in that period.

In the post-World War II period, there were a number of discussions of the possibility of multilateral chemical and biological weapons bans, but no significant progress was made until the late 1960's. In 1969, President Nixon announced that he would resubmit the 1925 Geneva Protocol to the Senate. He reaffirmed U.S. renunciation of first use of lethal chemical weapons, as well as incapacitating chemicals.

In 1970, the President resubmitted the protocol with a reservation that the United States could retaliate with chemical weapons. He also declared that the protocol would not apply to the use in war of riot-control agents and herbicides. The Committee on Foreign Relations disagreed with the narrow coverage and deferred action. 1971, the Soviets accepted the U.S. view that a ban on biological weapons presented less intractable problems and should not be held up awaiting agreement in the Conference on Disarmament on a chemical weapons ban. As a result, the Biological Weapons Convention was negotiated quickly, opened for signature and submitted to the Senate in 1972. The Senate Foreign Relations Committee deferred action pending resolution of the U.S. commitment under the Geneva Protocol.

In 1974, the Ford administration reopened the issue, and the Director of the Arms Control and Disarmament Agency indicated that

the President, while reaffirming the scope of the protocol, was prepared "to renounce as a matter of national policy: (1) first use of herbicides in war except use, under regulations applicable to their domestic use, for control of vegetation within U.S. bases and installations or around their immediate defensive perimeters; and (2) first use of riot-control agents in war except in defensive military modes to save lives * * *." Moreover, Dr. Ikle, testified, "The President, under an earlier directive still in force, must approve in advance any use of riot-control agents and chemical herbicides in war." With that and related understandings, the Senate Foreign Relations Committee voted unanimously 2 days later to report the Convention and the protocol favorably. Four days later, the Senate approved the protocol and the Convention unanimously.

RECENT DEVELOPMENTS

In recent years, the issue of chemical weapons proliferation has gained more immediacy as a result of a number of allegations of chemical and biological weapons use. In the mid 1960's, Egypt was accused of using chemical weapons with Soviet help in the Yemeni civil war. North Vietnam was accused of using chemical weapons and toxins in Laos and Cambodia. The Ethiopian government was suspected of using chemicals against rebels in 1980. The United States has also charged that the Soviet Union used chemical weapons and toxins in Afghanistan.

However, the event which provoked the sharpest response from the U.S. Congress was Iraq's repeated use of chemical weapons in the Iran-Iraq War, prompting Iranian retaliation with chemical weapons and use of poison gas against its own Kurdish citizens in 1988. Congress responded by passing the Pell-Helms Chemical and Biological Weapons Control and Welfare Elimination Act, which imposed sanctions on nations using chemical weapons and against companies aiding the chemical weapons programs in certain countries. President Bush vetoed the legislation in 1990, however, because it did not allow a Presidential waiver of sanctions. The Bush administration subsequently established controls and sanctions by Executive order, but with complete leeway on waivers of penalties. The legislation was passed again by Congress and became law in 1991.

Additionally, progress was made during the 1980's in achieving international cooperation on nonproliferation issues. In 1984, Vice President Bush introduced at the Conference on Disarmament in Geneva a draft treaty calling for a comprehensive ban with extensive verification procedures. In the following years, a number of key issues were resolved, and an early agreement in principle on the basic approach a ban would take emerged. The Reagan administration had favored very strict "anytime, anywhere" verification regime which the Soviet Union ultimately accepted. While some argued that this may constitute an unacceptable level of intrusiveness, further negotiation to reach of common ground resulted in a modification of the earlier approach and resulted in the "managed access" system of inspections.

In June 1990 Presidents Bush and Gorbachev signed a bilateral Agreement on Destruction and Non-Production of Chemical Weap-

ons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons. This agreement:

Banned the production of chemical weapons agents;

Required reduction in chemical weapons stocks to 5,000 tons by 2002, necessitating cuts of 83% in U.S. stocks and 90% in Russian stocks;

Provided for on-site inspections of storage, destruction and production facilities, combined with data declarations.

In March 1993, the United States and Russian delegations agreed ad referendum on detailed implementing procedures and updated provisions to finalize the Bilateral Destruction Agreement. Russia has yet to formally agree to these detailed procedures and provisions, however, citing problems with the provisions on conversion of former chemical weapons facilities to peaceful uses and with the costs of stockpile destruction.

On the multilateral front, the late 1980's saw a slowdown in progress on an international chemical weapons agreement, as states debated the extensive verification procedures proposed by the United States. Also, many nations opposed a U.S.-Soviet formulation whereby those two countries could keep 500 tons of chemical weapons for at least another 8 years, pending an assessment of participation in the Convention.

The experience of the Gulf War, in which the United States faced the possibility of chemical weapons attack, apparently precipitated a change in the Bush administration's thinking in the matter. The administration decided that the need for a chemical weapons ban outweighed the need to maintain a chemical retaliatory capability. Thus, the United States decided that in the context of a multilateral convention, it would be willing to abide by a total chemical weapons ban even if other countries maintained chemical weapons stockpiles and programs.

This led to accelerated progress in multilateral talks. The result was the opening for signature on January 13, 1993, of The Convention on the Prohibition of Development Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, or the Chemical Weapons Convention.

SIGNATORIES OF THE CHEMICAL WEAPONS CONVENTION
RATIFICATIONS: 62 AS OF 9/6/96

Afghanistan
Albania—Ratified 5/11/94
Algeria—Ratified 8/14/95
Argentina—Ratified 10/2/95
Armenia—Ratified 1/27/95
Australia—Ratified 5/6/94
Austria—Ratified 8/17/95
Azerbaijan
Bahamas
Bahrain
Bangladesh
Belarus—Ratified 7/11/96
Belgium
Benin
Bolivia

Brazil—Ratified 3/13/96
Brunei Darussalem
Bulgaria—Ratified 8/10/94
Burkina Faso
Burundi
Cambodia
Cameroon
Canada—Ratified 9/26/95
Cape Verde
Central African Republic
Chad
Chile—Ratified 7/11/96
China
Colombia
Comoros
Congo
Cook Islands—Ratified 7/15/94
Costa Rica—Ratified 5/31/96
Cote d'Ivoire—Ratified 12/15/95
Croatia—Ratified 5/23/95
Cuba
Cyprus
Czech Republic—Ratified 3/6/96
Denmark—Ratified 7/13/95
Djibouti
Dominica
Dominican Republic
Ecuador—Ratified 9/6/95
El Salvador—Ratified 10/30/95
Equatorial Guinea
Estonia
Ethiopia—Ratified 5/24/96
Fiji—Ratified 1/20/93
Finland—Ratified 2/7/95
France—Ratified 3/2/95
Gabon
Gambia
Georgia—Ratified 11/27/95
Germany—Ratified 8/12/94
Ghana
Greece—Ratified 12/22/94
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Holy See
Honduras
Hungary
Iceland
India—Ratified 9/3/96
Indonesia
Iran
Ireland—Ratified 6/24/96

Israel
Italy—Ratified 12/8/95
Japan—Ratified 9/15/95
Kazakhstan
Kenya
Kuwait
Kyrgyzstan
Laos
Latvia—Ratified 7/23/96
Lesotho—Ratified 12/7/94
Liberia
Liechtenstein
Lithuania
Luxembourg
Madagascar
Malawi
Malaysia
Maldives—Ratified 5/31/94
Mali
Malta
Marshall Islands
Mauritania
Mauritius—Ratified 2/9/93
Mexico—Ratified 8/29/94
Micronesia
Moldova—Ratified 7/8/96
Monaco—Ratified 6/1/95
Mongolia—Ratified 1/17/95
Morocco—Ratified 12/28/95
Myanmar
Namibia—Ratified 11/27/95
Nauru
Nepal
Netherlands—Ratified 6/30/95
New Zealand—Ratified 7/15/96
Nicaragua
Niger
Nigeria
Norway—Ratified 4/7/94
Oman—Ratified 2/8/95
Pakistan
Panama
Papua New Guinea—Ratified 4/17/96
Paraguay—Ratified 23/1/94
Peru—Ratified 7/20/95
Philippines
Poland—Ratified 8/23/95
Portugal
Qatar
Romania—Ratified 2/15/95
Russian Federation
Rwanda
Saint Kitts and Nevis
Saint Lucia

Saint Vincent and
the Grenadines
Samoa
San Marino
Saudi Arabia—Ratified 8/9/96
Senegal
Seyechelles—Ratified 4/7/93
Sierra Leone
Singapore
Slovak Republic—Ratified 10/27/95
Slovenia
South Africa—Ratified 9/13/95
South Korea
Spain—Ratified 8/3/94
Sri Lanka—Ratified 8/19/94
Swaziland
Sweden—Ratified 6/17/93
Switzerland—Ratified 3/10/95
Tajikistan—Ratified 1/11/95
Tanzania
Thailand
Togo
Tunisia
Turkey
Turkmenistan—Ratified 9/29/94
Uganda
Ukraine
United Arab Emirates
United Kingdom—Ratified 5/13/96
United States
Uruguay—Ratified 10/6/94
Uzbekistan—Ratified 7/23/96
Venezuela
Viet Nam
Yemen
Zaire
Zambia
Zimbabwe

Total=160 Members.
Last updated: July 24, 1996.

V. Committee Action

Senator Pell chaired the first hearing on the Chemical Weapons Convention on March 22, 1994, when the Committee heard from the Honorable Warren Christopher, Secretary of State and the Honorable John D. Holum, Director of the United States Arms Control and Disarmament Agency. Additionally, Mr. Holum was heard in closed session in the afternoon of March 22.

A second hearing was held on April 13, 1994. Witnesses included the Honorable Stephen J. Ledogar, U.S. Representative to the Conference on Disarmament; Sherry S. Mannix, Chairman, Interagency Chemical Weapons Ratification Task Force and Former Senior ACDA Representative to the U.S. Delegation to the Con-

ference on Disarmament; and Bernard L. Seward, Jr., Attorney Advisor, U.S. Arms Control and Disarmament Agency and Former Legal Advisor to the U.S. Conference on Disarmament.

A third hearing was held on May 13, 1994, with witnesses from the Department of Defense. Witnesses included the Honorable Walter B. Slocombe, Deputy Under Secretary for Policy; Major General David W. McIlvoy, USAF, Deputy Director for International Negotiations, Directorate for Strategic Plans and Policy (J–5), Joint Chiefs of Staff; and Dr. Harold P. Smith, Jr., Assistant to the Secretary of Defense for Atomic Energy, Department of Defense.

On May 17, 1994, the Committee met briefly in open session and moved to closed session with representatives of the Intelligence Community. Witnesses included Major General (retired) John Landry, USA, National Intelligence Officer for General Forces, National Intelligence Council; John Lauder, Chief, Arms Control Intelligence Staff for the Director of Central Intelligence; and Donald Mahley, Acting Assistant Director, Bureau of Multilateral Affairs, U.S. Arms Control and Disarmament Agency.

On June 9, 1994, the Committee heard from several outside experts. Witnesses included Will B. Carpenter, Chemical Industry Consultant, Salt Lake City, Utah; Amoretta Hoeber, Former Deputy Under Secretary of the Army, Arlington, Virginia; Dr. Matthew Meselson, Department of Biochemistry and Molecular Biology, Harvard University, Cambridge, Massachusetts; the Honorable Michael Moodie, President, Chemical and Biological Arms Control Institute, Alexandria, Virginia; the Honorable Ronald F. Lehman, Former Director, United States Arms Control and Disarmament Agency, Livermore, California; Frank Gaffney, Jr., Director, Center for Security Policy, Washington, D.C.; the Honorable Kathleen Bailey, Former Assistant Director, United States Arms Control and Disarmament Agency, Livermore, California; and Amy Smithson, Director, Chemical Weapons Convention Implementation Project, Henry L. Stimson Center, Washington, D.C.

On June 16, 1994, the Committee met in closed session to hear Intelligence Community witnesses.

On June 23, 1994, the Committee met in open session with General John M. Shalikashvili, Chairman of the Joint Chiefs of Staff; the Honorable John D. Holum, Director, United States Arms Control and Disarmament Agency; and the Honorable R. James Woolsey, Director of Central Intelligence.

On March 13, 1996, the Committee held the first in the final round of hearings. Witnesses include: Ms. Amoretta Hoeber, President of AMH Consulting; Mr. Baker Spring, a Senior Policy Analyst at the Heritage Foundation; The Honorable Michael Moodie, President of the Chemical and Biological Arms Control Institute; Dr. J.D. Crouch, professor of Defense and Strategic Studies at Southwest Missouri State.

The Committee's eighth hearing was held on March 21, 1996. Witnesses included: Dr. Brad Roberts, Defense Institute of Analysis; Frederick Webber, President and CEO, Chemical Manufacturers Association; The Honorable Kathleen Bailey, Senior Fellow on the Staff of the Director at Lawrence Livermore National Laboratory; Douglas J. Feith, Senior Founding Partner of Feith and Zell, P.C.

On March 26, 1996, the Committee met in closed session to hear Intelligence Community witnesses.

The final hearing was held on March 28, 1996. Witnesses included: The Honorable Warren Christopher, Secretary of State; The Honorable William Perry, Secretary of Defense; Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs.

On April 25, 1996, the Senate Foreign Relations Committee met for a business meeting, where among other things, the Chemical Weapons Convention was on the agenda. The Chairman, under an agreement reached during the State Department Reorganization debate, introduced a resolution of ratification for the Chemical Weapons Convention. A substitute offered by Senator Lugar, Senator Pell, Senator Kassebaum, Senator Biden, Senator Dodd, and Senator Kerry was agreed to by a vote of 12 to 6. Senator Lugar, Senator Kassebaum, Senator Snowe, Senator Thomas, Senator Pell, Senator Biden, Senator Sarbanes, Senator Dodd, Senator Kerry, Senator Robb, Senator Feingold, and Senator Feinstein voted in favor of the substitute. Chairman Helms, Senator Brown, Senator Coverdell, Senator Thompson, Senator Grams, and Senator Ashcroft voted against the substitute. On the question of reporting the Chemical Weapons Convention to the full Senate, the committee voted in favor, by a vote of 13 to 5. Senator Lugar, Senator Kassebaum, Senator Snowe, Senator Thompson, Senator Thomas, Senator Pell, Senator Biden, Senator Sarbanes, Senator Dodd, Senator Kerry, Senator Robb, Senator Feingold, and Senator Feinstein voted in favor of reporting the Convention to the full Senate. Chairman Helms, Senator Brown, Senator Coverdell, Senator Grams, and Senator Ashcroft voted against the Convention's report to the full Senate.

The substitute resolution of ratification adopted was the result of a bi-partisan effort to report a resolution of ratification to the full Senate which if approved by a two-thirds majority would allow U.S. instruments of ratification to be deposited and U.S. participation in the Convention. The substitute received the support of the Administration. The resolution of ratification was submitted to the Senate on April 30, 1996, pursuant to a unanimous consent agreement entered into on December 7, 1995.

VI. Resolution of Ratification

1. RESOLUTION OF RATIFICATION

Resolved (two-thirds of the Senators present concurring therein), That (a) the Senate advise and consent to the ratification of the Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, opened for signature and signed by the United States at Paris on January 13, 1993, including the following annexes and associated documents, all such documents being integral parts of and collectively referred to in this resolution as the "Convention" (contained in Treaty Document 103–21), subject to the conditions of subsection (b) and the declarations of subsection (c):

(1) The Annex on Chemicals.

(2) The Annex on Implementation and Verification (also known as the "Verification Annex").

(3) The Annex on the Protection of Confidential Information (also known as the "Confidentiality Annex").

(4) The Resolution Establishing the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons.

(5) The Text on the Establishment of a Preparatory Commission.

(b) CONDITIONS.—The advice and consent of the Senate to the ratification of the Convention is subject to the following conditions, which shall be binding upon the President:

(1) AMENDMENT CONFERENCES.—The United States will be present and participate fully in all Amendment Conferences and will cast its vote, either affirmatively or negatively, on all proposed amendments made at such conferences, to ensure that—

(A) the United States has an opportunity to consider any and all amendments in accordance with its Constitutional processes; and

(B) no amendment to the Convention enters into force without the approval of the United States.

(2) PRESIDENTIAL CERTIFICATION ON DATA DECLARATIONS.—(A) Not later than 10 days after the Convention enters into force, or not later than 10 days after the deposit of the Russian instrument of ratification of the Convention, whichever is later, the President shall either—

(i) certify to the Senate that Russia has complied satisfactorily with the data declaration requirements of the Wyoming Memorandum of Understanding; or

(ii) submit to the Senate a report on apparent discrepancies in Russia's data under the Wyoming Memorandum of Understanding and the results of any bilateral discussions regarding those discrepancies.

(B) For purposes of this paragraph, the term "Wyoming Memorandum of Understanding" means the Memorandum of Understanding Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics Regarding a Bilateral Verification Experiment and Data Exchange Related to Prohibition on Chemical Weapons, signed at Jackson Hole, Wyoming, on September 23, 1989.

(3) PRESIDENTIAL CERTIFICATION ON THE BILATERAL DESTRUCTION AGREEMENT.—Before the deposit of the United States instrument of ratification of the Convention, the President shall certify in writing to the Senate that—

(A) a United States-Russian agreement on implementation of the Bilateral Destruction Agreement has been or will shortly be concluded, and that the verification procedures under that agreement will meet or exceed those mandated by the Convention, or

(B) the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons will be prepared, when the Convention enters into force, to submit a plan for meeting the Organization's full monitoring responsibilities

that will include United States and Russian facilities as well as those of other parties to the Convention.

(4) NONCOMPLIANCE.—If the President determines that a party to the Convention is in violation of the Convention and that the actions of such party threaten the national security interests of the United States, the President shall—

(A) consult with, and promptly submit a report to, the Senate detailing the effect of such actions on the Convention;

(B) seek on an urgent basis a meeting at the highest diplomatic level with the Organization for the Prohibition of Chemical Weapons (in this resolution referred to as the "Organization") and the noncompliant party with the objective of bringing the noncompliant party into compliance;

(C) in the event that a party to the Convention is determined not to be in compliance with the Convention, request consultations with the Organization on whether to—

(i) restrict or suspend the noncompliant party's rights and privileges under the Convention until the party complies with its obligations;

(ii) recommend collective measures in conformity with international law; or

(iii) bring the issue to the attention of the United Nations General Assembly and Security Council; and

(D) in the event that noncompliance continues, determine whether or not continued adherence to the Convention is in the national security interests of the United States and so inform the Senate.

(5) FINANCING IMPLEMENTATION.—The United States understands that in order to ensure the commitment of Russia to destroy its chemical stockpiles, in the event that Russia ratifies the Convention, Russia must maintain a substantial stake in financing the implementation of the Convention. The costs of implementing the Convention should be borne by all parties to the Convention. The deposit of the United States instrument of ratification of the Convention shall not be contingent upon the United States providing financial guarantees to pay for implementation of commitments by Russia or any other party to the Convention.

(6) IMPLEMENTATION ARRANGEMENTS.—If the Convention does not enter into force or if the Convention comes into force with the United States having ratified the Convention but with Russia having taken no action to ratify or accede to the Convention, then the President shall, if he plans to implement reductions of United States chemical forces as a matter of national policy or in a manner consistent with the Convention—

(A) consult with the Senate regarding the effect of such reductions on the national security of the United States; and

(B) take no action to reduce the United States chemical stockpile at a pace faster than that currently planned and consistent with the Convention until the President submits to the Senate his determination that such reductions are in the national security interests of the United States.

(7) PRESIDENTIAL CERTIFICATION AND REPORT ON NATIONAL TECHNICAL MEANS.—Not later than 90 days after the deposit of the United States instrument of ratification of the Convention, the President shall certify that the United States National Technical Means and the provisions of the Convention on verification of compliance, when viewed together, are sufficient to ensure effective verification of compliance with the provisions of the Convention. This certification shall be accompanied by a report, which may be supplemented by a classified annex, indicating how the United States National Technical Means, including collection, processing and analytic resources, will be marshalled, together with the Convention's verification provisions, to ensure effective verification of compliance. Such certification and report shall be submitted to the Committee on Foreign Relations, the Committee on Appropriations, the Committee on Armed Services, and the Select Committee on Intelligence of the Senate.

(c) DECLARATIONS.—The advice and consent of the Senate to ratification of the Convention is subject to the following declarations, which express the intent of the Senate:

(1) TREATY INTERPRETATION.—The Senate affirms the applicability to all treaties of the constitutionally based principles of treaty interpretation set forth in Condition (1) of the Resolution of Ratification with respect to the INF Treaty, approved by the Senate on May 27, 1988. For purposes of this declaration, the term "INF Treaty" refers to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter Range Missiles, together with the related memorandum of understanding and protocols, approved by the Senate on May 27, 1988.

(2) FURTHER ARMS REDUCTION OBLIGATIONS.—The Senate declares its intention to consider for approval international agreements that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner only pursuant to the treaty power set forth in Article II, Section 2, Clause 2 of the Constitution.

(3) RETALIATORY POLICY.—The Senate declares that the United States should strongly reiterate its retaliatory policy that the use of chemical weapons against United States military forces or civilians would result in an overwhelming and devastating response, which may include the whole range of available weaponry.

(4) CHEMICAL DEFENSE PROGRAM.—The Senate declares that ratification of the Convention will not obviate the need for a robust, adequately funded chemical defense program, together with improved national intelligence capabilities in the nonproliferation area, maintenance of an effective deterrent through capable conventional forces, trade-enabling export controls, and other capabilities. In giving its advice and consent to ratification of the Convention, the Senate does so with full appreciation that the entry into force of the Convention enhances the responsibility of the Senate to ensure that the Unit-

ed States continues an effective and adequately funded chemical defense program. The Senate futher declares that the United States should continue to develop theater missile defense to intercept ballistic missiles that might carry chemical weapons and should enhance defenses of the United States Armed Forces against the use of chemical weapons in the field.

(5) ENFORCEMENT POLICY.—The Senate urges the President to pursue compliance questions under the Convention vigorously and to seek international sanctions if a party to the Convention does not comply with the Convention, including the "obligation to make every reasonable effort to demonstrate its compliance with this Convention", pursuant to paragraph 11 of Article IX. It should not be necessary to prove the noncompliance of a party to the Convention before the United States raises issues bilaterally or in appropriate international fora and takes appropriate actions.

(6) APPROVAL OF INSPECTORS.—The Senate expects that the United States will exercise its right to reject a proposed inspector or inspection assistant when the facts indicate that this person is likely to seek information to which the inspection team is not entitled or to mishandle information that the team obtains.

(7) ASSISTANCE TO RUSSIA.—The Senate declares that, if the United States provides limited financial assistance for the destruction of Russian chemical weapons, the United States should, in exchange for such assistance, require Russia to destroy its chemical weapons stocks at a proportional rate to the destruction of United States chemical weapons stocks and to take the action before the Convention deadline. In addition, the Senate urges the President to request Russia to allow inspections of former military facilities that have been converted to commercial production, given the possibility that these plants could one day be reconverted to military use, and that any United States assistance for the destruction of the Russian chemical stockpile be apportioned according to Russia's openness to these broad based inspections.

(8) EXPANDING CHEMICAL ARSENALS IN COUNTRIES NOT PARTY TO THE CHEMICAL WEAPONS CONVENTION.—It is the sense of the Senate that, if during the time the Convention remains in force the President determines that there has been an expansion of the chemical weapons arsenals of any country not a party to the Convention so as to jeopardize the supreme national interests of the United States, then the President should consult on an urgent basis with the Senate to determine whether adherence to the Convention remains in the national interest of the United States.

(9) COMPLIANCE.—Concerned by the clear pattern of Soviet noncompliance with arms control agreements and continued cases of noncompliance by Russia, the Senate declares the following:

(A) The Convention is in the interest of the United States only if both the United States and Russia, among others, are in strict compliance with the terms of the Convention as submitted to the Senate for its advice and con-

sent to ratification, such compliance being measured by performance and not by efforts, intentions, or commitments to comply.

(B)(i) Given its concern about compliance issues, the Senate expects the President to offer regular briefings, but not less than several times a year, to the Committees on Foreign Relations and Armed Services and the Select Committee on Intelligence of the Senate on compliance issues related to the Convention. Such briefings shall include a description of all United States efforts in diplomatic channels and bilateral as well as the Multilateral Organization fora to resolve the compliance issues and shall include, but not necessarily be limited to a description of—

(I) any compliance issues, other than those requiring challenge inspections, that the United States plans to raise with the Organization; and

(II) any compliance issues raised at the Organization, within 30 days.

(ii) Any Presidential determination that Russia is in noncompliance with the Convention shall be transmitted to the committees specified in clause (i) within 30 days of such a determination, together with a written report, including an unclassified summary, explaining why it is in the national security interests of the United States to continue as a party to the Convention.

(10) SUBMISSION OF FUTURE AGREEMENTS AS TREATIES.—The Senate declares that after the Senate gives its advice and consent to ratification of the Convention, any agreement or understanding which in any material way modifies, amends, or reinterprets United States and Russian obligations, or those of any country, under the Convention, including the time frame for implementation of the Convention, should be submitted to the Senate for its advice and consent to ratification.

(11) RIOT CONTROL AGENTS.—(A) The Senate, recognizing that the Convention's prohibition on the use of riot control agents as a "method of warfare" precludes the use of such agents against combatants, including use for humanitarian purposes where combatants and noncombatants intermingled, urges the President—

(i) to give high priority to continuing efforts to develop effective nonchemical, nonlethal alternatives to riot control agents for use in situations where combatants and noncombatants are intermingled; and

(ii) to ensure that the United States actively participates with other parties to the Convention in any reassessment of the appropriateness of the prohibition as it might apply to such situations as the rescue of downed air crews and passengers and escaping prisoners or in situations in which civilians are being used to mask or screen attacks.

(B) For purposes of this paragraph, the term "riot control agents" is used within the meaning of Article II (4) of the Convention.

2. DESCRIPTION OF THE RESOLUTION OF RATIFICATION

Article XXII states that the Articles of the Convention are not subject to reservations. The Committee has expressed the view that the President's agreement to such a prohibition cannot constrain the Senate's constitutional right and obligation to give its advice and consent to a treaty subject to any reservation it might determine is required by the national interest. This principle must apply even if the Senate agrees to treaties when no reservations are necessary.

The Annexes of the Convention are subject to reservations, as long as they are not incompatible with the object and purpose of the Convention. The Administration has informed the Senate that Article XXII represents a compromise between countries that wanted no reservations and the United States, which wanted to preserve the rights of the executive and legislative branches to make reservations. This compromise reflects the position of most countries that the basic requirements of the Convention, which are found in the Articles, should not be subject to reservations. The Annexes, however, contain detailed implementation measures which may not be suitable or necessary for all countries. Reservations to the Annexes, therefore, should be allowed, unless they contradict the object and purpose of the Convention.

Although the Senate may accede to the President's request not to make its advice and consent to this Convention subject to a reservation, the Senate is still in a position to give its declarations or provisions as it might deem necessary, short of a reservation that would be deemed a change in specific U.S. obligations.

The first condition of the substitute resolution of ratification responds to paragraph 3 of Article XV of the Convention. It states that "3. Amendments shall enter into force for all States Parties 30 days after deposit of the instruments of ratification or acceptance by all the States parties referred to under subparagraph (b) below: (a) When adopted by the Amendment Conference by a positive vote of a majority of all States Parties with no State Party casting a negative vote; and (b) Ratified or accepted by all those States parties casting a positive vote at the Amendment Conference."

Pursuant to this provision, if the United States were to abstain, or simply not to vote, when a matter was decided in the Amendment Conference, it could be possible for an amendment to be adopted without being submitted to the Senate for advice and consent—or, indeed, over the objection of the Senate. By contrast, a U.S. vote in favor of an amendment would make U.S. ratification a precondition to entry into force—and a U.S. vote against an amendment would defeat the proposal before any States Parties could ratify it.

The Executive Branch provided the Senate with the following assurance:

> On this point, it should be stressed that the United States will be present at all Amendment Conferences and will cast its vote, either positive or negative, on all proposed amendments made at such conferences, thus ensuring the opportunity for the Senate to consider any amendment approved by the Amendment Conference.

The Executive Branch's assurance is intended to remove any concern regarding the constitutional role of the Senate. The Committee on Foreign Relations would make the Senate's consent to ratification of the Chemical Weapons Convention conditioned upon a binding obligation upon the President to abide by this commitment.

Condition 2. In the Wyoming Memorandum of Understanding (MOU) of September 23, 1989, the Soviet Union and the United States agreed to "conduct a bilateral verification experiment and data exchange related to the prohibition of chemical weapons." This agreement was to be carried out in two phases. In Phase I, the sides agreed to "exchange general data on their chemical weapons capabilities and carry out a series of visits to relevant facilities." In Phase II, the sides agreed to "exchange detailed data and perform on-site inspections to verify the accuracy of those data." The overall intent of the Wyoming MOU was "to facilitate the process of negotiation, signature and ratification of a comprehensive, effectively verifiable and truly global convention on the prohibition and destruction of chemical weapons."

Pursuant to the Wyoming MOU, the United States and the Soviet Union signed on June 1, 1990, an "Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons" (known as the Bilateral Destruction Agreement or BDA).

When the Wyoming MOU and the BDA were signed, there was still a Soviet Union. There was little expectation that a Chemical Weapons Convention could be negotiated in the near term. Today, there is no Soviet Union but there is a Chemical Weapons Convention. To the extent, however, that Russia impedes the implementation of the Wyoming MOU and the Bilateral Destruction Agreement or submits questionable data declarations, her good faith must be questioned.

Data Declarations under the Wyoming MOU. Phase I of the Wyoming MOU appears to have been carried out as planned. The Phase II data exchange, which should have occurred in the spring of 1992, did not take place until fully 2 years later, pursuant to implementing procedures that were agreed in Moscow on January 14, 1994. A review of the Russia's Wyoming MOU Phase I and Phase II data declarations suggests significant shortcomings in those declarations. Those shortcomings account for the Committee's concern over Russia's failure to comply fully with the data declaration provisions of the Wyoming MOU and its implementing procedures.

Moreover, the failure to implement all the on-site inspections originally agreed to in the Wyoming MOU is another cause of concern. The inspections under Phase II of the MOU are no longer likely to make a significant contribution to compliance monitoring or verification. Rather, as pared down in 1993 and in the final implementing procedures, they will continue the confidence-building process and help the two sides prepare for later inspections under the Bilateral Destruction Agreement and/or the Chemical Weapons Convention. But the Russian refusal to permit a full suite of technical inspection equipment, even after most inspections and all challenge inspections or nondeclared sites were eliminated, suggests the Russians may have something to hide.

The Committee believes that the President must make full Russian implementation of the Wyoming MOU and the Bilateral Destruction Agreement an issue of high priority in U.S.- Russian relations and must raise the matter personally at the highest levels. Therefore, the committee has added a condition to the resolution of ratification of the CWC requiring the President, 10 days after the CWC enters into force or 10 days after the Russian Federation deposits instruments of ratification of the CWC, whichever is later, either (A) to certify to the Senate that the Russian Federation has complied satisfactorily with the data declaration requirements of the Wyoming Memorandum of Understanding; or (B) to submit to the Senate a report on apparent discrepancies in the Russian Federation's Wyoming Memorandum of Understanding data and the results of any bilateral discussions regarding those discrepancies.

Condition 3. The Bilateral Destruction Agreement (BDA) of 1990 calls for the immediate cessation of CW production, for the destruction by December 31, 2002, of all U.S. and Russian chemical weapons except for up to 5,000 metric tons, and, if the CWC should enter into force, for destruction of all but 500 metric tons within 8 years of that date—reflecting the U.S. negotiating position as of 1990. The BDA also mandates annual updates to the 1989 Wyoming MOU data exchange.

At the time the BDA was signed, there was no exception that in just over 2 years the Chemical Weapons Convention would be initialed. The BDA was intended to set a good example for the rest of the world, to move the CWC negotiations along, and to mesh with a CWC that had not yet been completed. To deal with a future CWC, the Parties adopted Paragraph 1 of Article VIII of the BDA that reads:

> After the multilateral convention enters into force, the provisions of the multilateral convention shall take precedence over the provisions of this Agreement (the BDA) in cases of compatible obligations therein. Otherwise, the provisions of the (BDA) Agreement shall supplement the provisions of the multilateral convention in its operation between the Parties. After the multilateral convention is signed, the Parties to this (BDA) Agreement shall consult with each other in order to resolve any questions concerning the relationship of this (BDA) Agreement to the multilateral convention.

However, Russia has yet to agree to a date for further bilateral negotiations on BDA implementation. Given the passage of more than 3 years since Russia and the United States reached agreement ad referendum on BDA implementation, and given the fact that the BDA mandates extensive on-site inspection by U.S. personnel, there is a real risk that the BDA will never enter into force, notwithstanding Russia's economic incentive to accept bilateral verification.

In the absence of agreement on BDA implementation, verification of Russian compliance would likely be based upon a smaller number of inspections than originally anticipated, that the inspections of Russian sites would be conducted by the OPCW inspectorate rather than by U.S. personnel, and there would be no guaranteed

U.S. access to the detailed inspection data. On the other hand, the OPCW is unlikely to exempt Russia from the requirements set forth in the CWC's provisions.

OPCW budget planning has proceeded on the assumption that the United States and the Russian Federation would handle the bulk of the monitoring of each other's CWC facilities. If the BDA should not come into force by the time the CWC comes into force, then the Technical Secretariat of the OPCW might not be able to field enough international inspectors to handle this significant task. At minimum, OPCW planning assumptions may need to be revised so that the organization can prepare for the possible need to monitor U.S. and Russian CW facilities.

Therefore, the Committee has added a condition to the resolution of ratification of the CWC, barring the deposit of the instruments of ratification until the President certifies to Congress either (A) that the U.S.-Russian agreement on implementation of the Bilateral Destruction Agreement has been or will shortly be achieved, and that the agreed verification procedures will meet or exceed those mandated by the Chemical Weapons Convention; or (B) that the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons will be prepared, when the Convention enters into force, to submit a plan for meeting the organization's full monitoring responsibilities that will include U.S. and Russian facilities as well as those of other States Parties.

Condition 4. The enforcement of arms control agreements serves two basic functions: it is essential to the correction of violations, be they inadvertent or intentional; and it can serve to deter potential violators, by establishing a real penalty for noncompliance. The penalty for noncompliance may be tangible or largely political—i.e., public exposure of the violator. But without some penalty, deterrence is minimal and enforcement can at best correct those violations that the international community happens to discover. Without the will to enforce an agreement in the face of violations, moreover, an agreement can gradually or precipitously lose its force.

The basic enforcement powers of the OPCW are set forth in Article XII of the Convention. But collective measures in defense of the CWC will likely require both firm OPCW leadership and strong support from the major powers. Specifically, it is hard to imagine any such collective measures being adopted unless the United States asserts itself to build the necessary consensus for such action.

The Committee believes that the deterrent effect of the CWC is extremely difficult to predict. Countries that are uncertain about the value of chemical weapons may well be both reassured by wide ratification of the CWC and loath to risk discovery of a CW posture that they see as providing only marginal gain. Given the nature and secrecy of many of the states of greatest concern, however, the CWC may not deter those most committed to having an offensive CW capability, although it will likely be more effective in deterring the actual use of chemical weapons.

The Committee also believes that a strong U.S. commitment to the enforcement of the CWC will be essential to the effectiveness of the Convention. It may, in fact, be possible to achieve a measure of both enforcement and deterrence, but only if the United States

is prepared to make compliance with the CWC a major element of its foreign policy stance toward each State Party to the Convention.

Therefore, the Committee has added a condition to the resolution of ratification of the CWC that establishes the framework by which the President may seek to bring a noncompliant Party into compliance and, failing that, the President's actions with respect to determining whether continued adherence to the CWC remains in the national security interests of the United States.

Condition 5. There is inevitably a tension between the desire to maintain the best possible monitoring and verification capabilities and the need to limit expenditures and enforce budget discipline on international organizations to which the United States contributes. The OPCW has not been immune to this cost-benefit dilemma. Questions have been raised regarding the OPCW budget, and these are legitimate in light of the U.S. agreement to cover 25% of that budget.

By the same token, the Executive Branch believes that there are major economic incentives for the Russians to implement the Bilateral Destruction Agreement, since the United States would contribute funds for CW destruction under that agreement. Indeed, various Russian officials have argued that the rest of the world should share in the cost of Russian CW destruction, as they will share in the security benefits which flow from such destruction.

The United States has agreed to provide assistance to the Russian chemical weapons destruction program, including the provision of a U.S. contractor to aid in the development of a comprehensive destruction plan and the equipping of a central analytical laboratory for monitoring to ensure safe destruction activities. Moreover, the Russian government has asked that additional support focus on efforts to develop one or two nerve-agent destruction facilities.

Notwithstanding such limited U.S. assistance and the Committee view that the BDA may never enter into force, despite Russia's economic incentive to accept bilateral verification, the Committee believes that in order to ensure Russian commitment to destruction of its chemical stockpiles, Russia must maintain a substantial stake in financing the implementation of the CWC and share a substantial portion—if not all—of the burden of Russian implementation of the CWC. Therefore, the Committee has added a condition to the resolution of ratification of the CWC that the deposit of the instruments of ratification of the CWC shall not be contingent upon the United States providing financial guarantees to pay for implementation of commitments by Russia and other States Parties under the Convention.

Condition 6. This instructs the President that if the CWC does not come into force or it comes into force with the U.S. having ratified the Treaty but Russia having taken no action, and the President plans to implement U.S. chemical reductions anyway, he must consult with the Senate. He can take no action to reduce the U.S. stockpile at a pace faster than currently planned and consistent with the CWC until he submits to the Senate his determination that such reductions are in the national security interests of the United States. This provision allows the Administration to meet its CW destruction obligation in full consultation with the Senate.

Condition 7. The United States will rely upon a combination of capabilities—including imagery, signals intelligence, human intelligence, open-source information, and the verification provisions of the CWC. Monitoring the CWC will be a difficult task and the Intelligence Community has poor confidence in its ability to monitor the most stressing aspects of the CWC for three primary reasons:

the large number of sites worldwide involved in chemical production subject to the Convention;

most of the products and production facilities subject to the agreement are dual-use, with legitimate commercial applications; and

most activity prohibited by the CWC is easily concluded or disguised.

Nonetheless, the Intelligence Community has testified that the CWC is a net plus in its efforts to assess and warn of potential chemical warfare threats to the United States and that the accumulation of data provided by the OPCW over the years will assist in its monitoring tasks.

The Committee shares the view with the Arms Control and Disarmament Agency that the verification provisions of the CWC, in combination with national intelligence means are insufficient to detect, with a high degree of confidence, all activities prohibited under the Convention. Nonetheless, the larger and more systematic the violations, the higher the possibility that, over time, evidence of these would surface. The existence of a program with the scope and size of the former Soviet Union's would be difficult to completely conceal under the Convention. Thus, the Committee does not believe that a single-all-encompassing judgment can be made regarding the verifiability of the CWC or U.S. capability to monitor compliance with the Convention. In some areas, our confidence will be significantly higher than others. However, the Committee accepts the Intelligence Community's pessimistic assessment of U.S. capability to detect and identify a sophisticated and determined violation of the Convention, especially on a small scale.

For that reason, the Committee has added a condition to the resolution of ratification of the CWC requiring the president, within 90 days of depositing the instruments of ratification, to certify that a combination of U.S. National Technical Means and the verification provisions of the Convention itself are sufficient to ensure effective verification of compliance with the provisions of the Treaty. That certification shall be accompanied by a report indicating how U.S. National Technical Means, including collection, processing. and analytical resources, will be marshaled in combination with the Convention's verification provisions.

Declaration 1 is an affirmation of Condition 1 of the INF Treaty Resolution of Ratification.

Declaration 2 is a statement of the intention of the Senate to continue to reduce the Armed Forces or armaments of the United States in a manner pursuant to the Constitution.

Declaration 3 states the U.S. Senate's policy to respond to chemical weapons use on U.S. troops or civilians with an overwhelming and devastating response, which may include the whole range of available weaponry.

Declaration 4 states the Senate's view that the U.S. must continue to field a robust, adequately funded chemical defense program, combined with improved national intelligence capabilities. The Senate states the United States should continue to develop missile theater defense.

Declaration 5 urges the President to seek sanctions bilaterally or in appropriate international fora if a state party does not abide by the Convention.

Declaration 6 states the Senate's expectation that the U.S. will exercise its right to reject a proposed inspector or inspection assistant when there is an indication that the person is seeking information the inspection team is not entitled or to mishandle information that the team obtains.

Declaration 7 states that if the U.S. provides assistance to Russia for chemical weapon destruction the U.S. should, in exchange for such assistance, require Russia to destroy stocks at a proportional rate to U.S. destruction, and before the CWC deadline. The Senate also urges the U.S. to require inspections of former Russian military facilities that have been converted to commercial production, given the possibility that these plants could be reconverted, and U.S. assistance should be apportioned to Russia's openness to these broad-based inspections.

Declaration 8 states that if the President at any time while the CWC is in force determines the supreme national interests of the United States are in jeopardy due to an expansion of the chemical weapons arsenals of any country not party to the CWC, the President should consult with the Senate to determine whether adherence to the CWC remains in the national security interests of the United States.

Declaration 9 states that the CWC is in the interest of the United States only if both the United States and Russia, among others, are in strict compliance. The Senate expects Russia, among others, to be in strict compliance with the CWC. The Senate Foreign Relations Committee, the Senate Armed Services Committee and the Senate Select Committee on Intelligence are to be offered regular briefings on compliance issues including: challenge inspections, compliance issues raised at the OPCW within 30 days, and any Presidential determination that Russia is in noncompliance.

Declaration 10 states that any agreement or understanding to the CWC which modifies, amends, or reinterprets U.S., Russian, or any other state's obligations should be submitted to the Senate for its advice and consent to ratification.

Declaration 11 urges the President to give high priority to continuing efforts to develop effective non-chemical, non-lethal alternatives to riot control agents. The Senate urges the President to ensure that the United States actively participates with other Parties to the Convention in any reassessment of the appropriateness of the prohibition as it might apply to such situation as the rescue of downed air crews and passengers and escaping prisoners or in situations in which civilians are being used to mask or screen attacks.

VII. Article-by-Article Analysis of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction

TABLE OF CONTENTS

	Page
Preamble	36
Articles	
I. General Obligations	37
II. Definitions and Criteria	37
III. Declarations	39
IV. Chemical Weapons	41
V. Chemical Weapons Production Facilities	43
VI. Activities not Prohibited Under this Convention	46
VII. National Implementation Measures	47
VIII. The Organization	48
IX. Consultations, Cooperation and Fact-Finding	56
X. Assistance and Protection Against Chemical Weapons	60
XI. Economic and Technological Development	62
XII. Measures to Redress a Situation and to Ensure Compliance, including Sanctions	62
XIII. Relation to Other International Agreements	63
XIV. Settlement of Disputes	63
XV. Amendments	64
XVI. Duration and Withdrawal	65
XVII. Status of the Annexes	66
XVIII. Signature	66
XIX. Ratification	66
XX. Accession	66
XXI. Entry into Force	66
XXII. Reservations	66
XXIII. Depositary	66
XXIV. Authenic Texts	67
Annex on chemicals	
A. Guidelines for schedules of chemicals:	
Guidelines for Schedule 1	67
Guidelines for Schedule 2	67
Guidelines for Schedule 3	67
B. Schedules of chemicals:	
Guidelines for Schedule 1	68
Guidelines for Schedule 2	69
Guidelines for Schedule 3	69
Annex on implementation and verification ("verification annex")	
Part I: Definitions	70
Part II: General rules of verification:	
A. Designation of inspectors and inspection assistants	73
B. Privileges and immunities	74
C. Standing arrangements:	
Points of entry	76
Arrangements for use of non-scheduled aircraft	77
Administrative arrangements	78
Approved equipment	78
D. Pre-inspection activities:	
Notification	79
Entry into the territory of the inspected State Party or Host State and transfer to the inspection site	79
Pre-inspection briefing	80
E. Conduct of inspections:	
General rules	80

Safety 80
Communications 81
Inspection team and inspected State Party rights 81
Collection, handling and analysis of samples 82
Extension of inspection duration 83
Debriefing 83
F. Departure 83
G. Reports 83
H. Application of general provisions 84
Part III: General provisions for verification measures pursuant to articles IV, V and VI, paragraph 3:
A. Initial inspections and facility agreements 84
B. Standing arrangements 85
C. Pre-inspection activities 86
Part IV (A): Destruction of chemical weapons and its verification pursuant to article IV:
A. Declarations:
Chemical Weapons 86
Declarations of chemical weapons pursuant to Article III, paragraph 1 (a) (iii) 88
Declarations of past transfers and receipts 88
Submission of the general plan for destruction of chemical weapons ... 88
B. Measures to secure the storage facility and storage facility preparation 89
C. Destruction:
Principles and methods for destruction of chemical weapons 89
Order of destruction 89
Modification of intermediate destruction deadlines 91
Extension of the deadline for completion of destruction 92
Detailed annual plans for destruction 92
Annual reports on destruction 94
D. Verification:
Verification of declarations of chemical weapons through on-site inspection 94
Systematic verification of storage facilities 94
Inspection and visits 95
Systematic verification of the destruction of chemical weapons 96
Chemical weapons storage facilities at chemical weapons destruction facilities 98
Systematic on-site verification measures at chemical weapons destruction facilities 98
Part IV (B): Old chemical weapons and abandoned chemical weapons:
A. General 99
B. Regime for old chemical weapons 99
C. Regime for abandoned chemical weapons 100
Part V: Destruction of chemical weapons production facilities and its verification pursuant to article V:
A. Declarations:
Declarations of chemical weapons production facilities 102
Declarations of chemical weapons production facilities pursuant to Article III, paragraph 1(c) (iii) 103
Declarations of past transfers and receipts 104
Submission of general plans for destruction 104
Submission of annual plans for destruction and annual reports on destruction 104
B. Destruction:
General principles for destruction of chemical weapons production facilities 105
Principles and methods for closure of a chemical weapons production facility 105
Technical maintenance of chemical weapons production facilities prior to their destruction 106
Principles and methods for temporary conversion of chemical weapons production facilities into chemical weapons destruction facilities 106
Principles and methods related to destruction of a chemical weapons production facility 107

Order of destruction 107
Detailed plans for destruction 108
Review of detailed plans 109
C. Verification:
Verification of declarations of chemical weapons production facilities through on-site inspection 110
Systematic verification of chemical weapons production facilities and cessation of their activities 111
Verification of destruction of chemical weapons production facilities .. 112
Verification of temporary conversion of a chemical weapons production facility into a chemical weapons destruction facility 112
D. Conversion of chemical weapons production facilities to purposes not prohibited under this convention:
Procedures for requesting conversion 113
Actions pending a decision 114
Conditions for conversion 115
Decision by the Executive Council and the Conference 115
Detailed plans for conversion 116
Review of detailed plans 116
Part VI: Activities not prohibited under this convention in accordance with article VI: Regime for schedule 1 chemicals and facilities related to such chemicals:
A. General provisions 118
B. Transfers 118
C. Production:
General principles for production 118
Single small-scale facility 119
Other facilities 119
D. Declarations:
Single small-scale facility 119
Other facilities referred to in paragraphs 10 and 11 120
E. Verification:
Single small-scale facility 121
Other facilities referred to in paragraphs 10 and 11 122
Part VII: Activities not prohibited under this convention in accordance with article VI: Regime for schedule 2 chemicals and facilities related to such chemicals:
A. Declarations:
Declarations of aggregate national data 123
Declarations of plant sites producing, processing or consuming Schedule 2 Chemicals 123
Declarations on past production of Schedule 2 chemicals for chemical weapons purposes 125
Information to States Parties 125
B. Verification:
General 125
Inspection aims 126
Initial inspections 126
Inspections 126
Inspection procedures 127
Notification of inspection 128
C. Transfers to States not party to this convention 128
Part VIII: Activities not prohibited under this convention in accordance with article VI: Regime for schedule 3 chemicals and facilities related to such chemicals:
A. Declarations:
Declarations of aggregate national data 128
Declarations of plant sites producing Schedule 3 chemicals 129
Declarations on past production of Schedule 3 chemicals for chemical weapons purposes 130
Information to States Parties 130
B. Verification:
General 130
Inspection aims 131
Inspection procedures 131
Notification of inspection 132
C. Transfers to States not party to this convention: 132

Part IX: Activities not prohibited under this convention in accordance with article VI: Regime for other chemical production facilities:
A. Declarations:
List of other chemical production facilities 132
Information to States Parties 132
Assistance by the Technical Secretariat 133
B. Verification:
General 134
Inspection aims 134
Inspection procedures 134
Notification of inspection 135
C. Implementation and review of section B:
Implementation 135
Review 135
Part X: Challenge inspections pursuant to article IX:
A. Designation and selection of inspectors and inspection assistants 136
B. Pre-inspection activities:
Notification 136
Entry into the territory of the inspected State Party or the Host State 137
Alternative determination of final perimeter 138
Verification of location 139
Securing the site, exit monitoring 139
Pre-inspection briefing and inspection plan 140
Perimeter activities 141
C. Conduct of inspections:
General rules 141
Managed access 142
Observer 143
Duration of inspection 144
D. Post-inspection activities:
Departure 144
Reports 144
Part XI: Investigation in cases of alleged use of chemical weapons:
A. General 145
B. Pre-inspection activities:
Request for an investigation 145
Notification 145
Assignment of inspection team 146
Dispatch of inspection team 146
Briefings 146
C. Conduct of inspections:
Access 146
Sampling 147
Extension of inspection site 147
Extension of inspection duration 147
Interviews 147
D. Reports:
Procedures 148
Contents 148
E. States not party to this convention 148

Annex on the protection of confidential information

A. General principles for the handling of confidential information 148
B. Employment and conduct of personnel in the technical secretariat 150
C. Measures to protect sensitive installations and prevent disclosure of confidential data in the course of on-site verification activities 151
D. Procedures in case of breaches or alleged breaches of confidentiality 152

Other documents associated with the convention

Resolution establishing the preparatory commission for the organization for the prohibition of chemical weapons 152
Text on the establishment of a preparatory commission:
Annex 1: Privileges, immunities and practical arrangements in connection with the hosting of the Preparatory Commission 157

Annex 2: Privileges, immunities, and practical arrangements to be laid down in the Headquarters Agreement 157
Annex 3: Information submitted and commitments undertaken by the Netherlands and by the City of The Hague .....
Privileges and Immunities 158
Building and Equipment 159
Laboratory/training 160
Social Security 161
Employment 161
General conditions relating to the Netherlands bid 161

PREAMBLE

The States Parties to this Convention,

Determined to act with a view to achieving effective progress towards general and complete disarmament under strict and effective international control, including the prohibition and elimination of all types of weapons of mass destruction,

Desiring to contribute to the realization of the purposes and principles of the Charter of the United Nations,

Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925 (the Geneva Protocol of 1925),

Recognizing that this Convention reaffirms principles and objectives of and obligations assumed under the Geneva Protocol of 1925, and the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction signed at London, Moscow and Washington on 10 April 1972,

Bearing in mind the objective contained in Article IX of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction,

Determined for the sake of all mankind, to exclude completely the possibility of the use of chemical weapons, through the implementation of the provisions of this Convention, thereby complementing the obligations assumed under the Geneva Protocol of 1925,

Recognizing the prohibition, embodied in the pertinent agreements and relevant principles of international law, of the use of herbicides as a method of warfare,

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

Desiring to promote free trade in chemicals as well as international cooperation and exchange of scientific and technical information in the field of chemical activities for purposes not prohibited under this Convention in order to enhance the economic and technological development of all States Parties,

Convinced that the complete and effective prohibition of the development, production, acquisition, stockpiling, retention, transfer and use of chemical weapons, and their destruction, represent a necessary step towards the achievement of these common objectives,

Have agreed as follows:

ARTICLE I

GENERAL OBLIGATIONS

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

(a) To develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone;

(b) To use chemical weapons;

(c) To engage in any military preparations to use chemical weapons;

(d) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention.

2. Each State Party undertakes to destroy chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with the provisions of this Convention.

3. Each State Party undertakes to destroy all chemical weapons it abandoned on the territory of another State Party, in accordance with the provisions of this Convention.

4. Each State Party undertakes to destroy any chemical weapons production facilities it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with the provisions of this Convention.

5. Each State Party undertakes not to use riot control agents as a method of warfare.

ARTICLE II

DEFINITIONS AND CRITERIA

For the purposes of this Convention:

1. "Chemical Weapons" means the following, together or separately:

(a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes;

(b) Munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of the employment of such munitions and devices;

(c) Any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b).

2. "Toxic Chemical" means: Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.

(For the purpose of implementing this Convention, toxic chemicals which have been identified for the application of verification

measures are listed in Schedules contained in the Annex on Chemicals.)

3. "Precursor" means: Any chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multicomponent chemical system.

(For the purpose of implementing this Convention, precursors which have been identified for the application of verification measures are listed in Schedules contained in the Annex on Chemicals.)

4. "Key Component of Binary or Multicomponent Chemical Systems" (hereinafter referred to as "key component") means: The precursor which plays the most important role in determining the toxic properties of the final product and reacts rapidly with other chemicals in the binary or multicomponent system.

5. "Old Chemical Weapons" means:

(a) Chemical weapons which were produced before 1925; or

(b) Chemical weapons produced in the period between 1925 and 1946 that have deteriorated to such extent that they can no longer be used as chemical weapons.

6. "Abandoned Chemical Weapons" means: Chemical weapons, including old chemical weapons, abandoned by a State after 1 January 1925 on the territory of another State without the consent of the latter.

7. "Riot Control Agent" means: Any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.

8. "Chemical Weapons Production Facility":

(a) Means any equipment, as well as any building housing such equipment, that was designed, constructed or used at any time since 1 January 1946:

(i) As part of the stage in the production of chemicals ("final technological stage") where the material flows would contain, when the equipment is in operation:

(1) Any chemical listed in Schedule 1 in the Annex on Chemicals; or

(2) Any other chemical that has no use, above 1 tonne per year on the territory of a State Party or in any other place under the jurisdiction or control of a State Party, for purposes not prohibited under this Convention, but can be used for chemical weapons purposes; or

(ii) For filling chemical weapons, including, inter alia, the filling of chemicals listed in Schedule 1 into munitions, devices or bulk storage containers; the filling of chemicals into containers that form part of assembled binary munitions and devices or into chemical submunitions that form part of assembled unitary munitions and devices, and the loading of the containers and chemical submunitions into the respective munitions and devices;

(b) Does not mean:

(i) Any facility having a production capacity for synthesis of chemicals specified in subparagraph (a) (i) that is less than 1 tonne;

(ii) Any facility in which a chemical specified in subparagraph (a) (i) is or was produced as an unavoidable by-product of activities for purposes not prohibited under this Convention, provided that the chemical does not exceed 3 per cent of the total product and that the facility is subject to declaration and inspection under the Annex on Implementation and Verification (hereinafter referred to as "Verification Annex"); or

(iii) The single small-scale facility for production of chemicals listed in Schedule 1 for purposes not prohibited under this Convention as referred to in Part VI of the Verification Annex.

9. "Purposes Not Prohibited Under this Convention" means:

(a) Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;

(b) Protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;

(c) Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare;

(d) Law enforcement including domestic riot control purposes.

10. "Production Capacity" means: The annual quantitative potential for manufacturing a specific chemical based on the technological process actually used or, if the process is not yet operational, planned to be used at the relevant facility. It shall be deemed to be equal to the nameplate capacity or, if the nameplate capacity is not available, to the design capacity. The nameplate capacity is the product output under conditions optimized for maximum quantity for the production facility, as demonstrated by one or more test-runs. The design capacity is the corresponding theoretically calculated product output.

11. "Organization" means the Organization for the Prohibition of Chemical Weapons established pursuant to Article VIII of this Convention.

12. For the purposes of Article VI:

(a) "Production" of a chemical means its formation through chemical reaction;

(b) "Processing" of a chemical means a physical process, such as formulation, extraction and purification, in which a chemical is not converted into another chemical;

(c) "Consumption" of a chemical means its conversion into another chemical via a chemical reaction.

ARTICLE III

DECLARATIONS

1. Each State Party shall submit to the Organization, not later than 30 days after this Convention enters into force for it, the following declarations, in which it shall:

(a) With respect to chemical weapons:

(i) Declare whether it owns or possesses any chemical weapons, or whether there are any chemical weapons located in any place under its jurisdiction or control;

(ii) Specify the precise location, aggregate quantity and detailed inventory of chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with Part IV (A), paragraphs 1 to 3, of the Verification Annex, except for those chemical weapons referred to in sub-subparagraph (iii);

(iii) Report any chemical weapons on its territory that are owned and possessed by another State and located in any place under the jurisdiction or control of another State, in accordance with Part IV (A), paragraph 4, of the Verification Annex;

(iv) Declare whether it has transferred or received, directly or indirectly, any chemical weapons since 1 January 1946 and specify the transfer or receipt of such weapons, in accordance with Part IV (A), paragraph 5, of the Verification Annex;

(v) Provide its general plan for destruction of chemical weapons that it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with Part IV (A), paragraph 6, of the Verification Annex;

(b) With respect to old chemical weapons and abandoned chemical weapons:

(i) Declare whether it has on its territory old chemical weapons and provide all available information in accordance with Part IV (B), paragraph 3, of the Verification Annex;

(ii) Declare whether there are abandoned chemical weapons on its territory and provide all available information in accordance with Part IV (B), paragraph 8, of the Verification Annex;

(iii) Declare whether it has abandoned chemical weapons on the territory of other States and provide all available information in accordance with Part IV (B), paragraph 10, of the Verification Annex;

(c) With respect to chemical weapons production facilities:

(i) Declare whether it has or has had any chemical weapons production facility under its ownership or possession, or that is or has been located in any place under its jurisdiction or control at any time since 1 January 1946;

(ii) Specify any chemical weapons production facility it has or has had under its ownership or possession or that is or has been located in any place under its jurisdiction or control at any time since 1 January 1946, in accordance with Part V, paragraph 1, of the Verification Annex, except for those facilities referred to in sub-subparagraph (iii);

(iii) Report any chemical weapons production facility on its territory that another State has or has had under its ownership and possession and that is or has been located in any place under the jurisdiction or control of another State at any time since 1 January 1946, in accordance with Part V, paragraph 2, of the Verification Annex;

(iv) Declare whether it has transferred or received, directly or indirectly, any equipment for the production of chemical

weapons since 1 January 1946 and specify the transfer or receipt of such equipment, in accordance with Part V, paragraphs 3 to 5, of the Verification Annex;

(v) Provide its general plan for destruction of any chemical weapons production facility it owns or possesses, or that is located in any place under its jurisdiction or control, in accordance with Part V, paragraph 6, of the Verification Annex;

(vi) Specify actions to be taken for closure of any chemical weapons production facility it owns or possesses, or that is located in any place under its jurisdiction or control, in accordance with Part V, paragraph 1 (i), of the Verification Annex;

(vii) Provide its general plan for any temporary conversion of any chemical weapons production facility it owns or possesses, or that is located in any place under its jurisdiction or control, into a chemical weapons destruction facility, in accordance with Part V, paragraph 7, of the Verification Annex;

(d) With respect to other facilities: Specify the precise location, nature and general scope of activities of any facility or establishment under its ownership or possession, or located in any place under its jurisdiction or control, and that has been designed, constructed or used since 1 January 1946 primarily for development of chemical weapons. Such declaration shall include, inter alia, laboratories and test and evaluation sites;

(e) With respect to riot control agents: Specify the chemical name, structural formula and Chemical Abstracts Service (CAS) registry number, if assigned, of each chemical it holds for riot control purposes. This declaration shall be updated not later than 30 days after any change becomes effective.

2. The provisions of this Article and the relevant provisions of Part IV of the Verification Annex shall not, at the discretion of a State Party, apply to chemical weapons buried on its territory before 1 January 1977 and which remain buried, or which had been dumped at sea before 1 January 1985.

ARTICLE IV

CHEMICAL WEAPONS

1. The provisions of this Article and the detailed procedures for its implementation shall apply to all chemical weapons owned or possessed by a State Party, or that are located in any place under its jurisdiction or control, except old chemical weapons and abandoned chemical weapons to which Part IV (B) of the Verification Annex applies.

2. Detailed procedures for the implementation of this Article are set forth in the Verification Annex.

3. All locations at which chemical weapons specified in paragraph 1 are stored or destroyed shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments, in accordance with Part IV (A) of the Verification Annex.

4. Each State Party shall, immediately after the declaration under Article III, paragraph 1 (a), has been submitted, provide access to chemical weapons specified in paragraph 1 for the purpose of systematic verification of the declaration through on-site inspec-

tion. Thereafter, each State Party shall not remove any of these chemical weapons, except to a chemical weapons destruction facility. It shall provide access to such chemical weapons, for the purpose of systematic on-site verification.

5. Each State Party shall provide access to any chemical weapons destruction facilities and their storage areas, that it owns or possesses, or that are located in any place under its jurisdiction or control, for the purpose of systematic verification through on-site inspection and monitoring with on-site instruments.

6. Each State Party shall destroy all chemical weapons specified in paragraph 1 pursuant to the Verification Annex and in accordance with the agreed rate and sequence of destruction (hereinafter referred to as "order of destruction"). Such destruction shall begin not later than two years after this Convention enters into force for it and shall finish not later than 10 years after entry into force of this Convention. A State Party is not precluded from destroying such chemical weapons at a faster rate.

7. Each State Party shall:

(a) Submit detailed plans for the destruction of chemical weapons specified in paragraph 1 not later than 60 days before each annual destruction period begins, in accordance with Part IV (A), paragraph 29, of the Verification Annex; the detailed plans shall encompass all stocks to be destroyed during the next annual destruction period;

(b) Submit declarations annually regarding the implementation of its plans for destruction of chemical weapons specified in paragraph 1, not later than 60 days after the end of each annual destruction period; and

(c) Certify, not later than 30 days after the destruction process has been completed, that all chemical weapons specified in paragraph 1 have been destroyed.

8. If a State ratifies or accedes to this Convention after the 10-year period for destruction set forth in paragraph 6, it shall destroy chemical weapons specified in paragraph 1 as soon as possible. The order of destruction and procedures for stringent verification for such a State Party shall be determined by the Executive Council.

9. Any chemical weapons discovered by a State Party after the initial declaration of chemical weapons shall be reported, secured and destroyed in accordance with Part IV (A) of the Verification Annex.

10. Each State Party, during transportation, sampling, storage and destruction of chemical weapons, shall assign the highest priority to ensuring the safety of people and to protecting the environment. Each State Party shall transport, sample, store and destroy chemical weapons in accordance with its national standards for safety and emissions.

11. Any State Party which has on its territory chemical weapons that are owned or possessed by another State, or that are located in any place under the jurisdiction or control of another State, shall make the fullest efforts to ensure that these chemical weapons are removed from its territory not later than one year after this Convention enters into force for it. If they are not removed within one year, the State Party may request the Organization and other

States Parties to provide assistance in the destruction of these chemical weapons.

12. Each State Party undertakes to cooperate with other States Parties that request information or assistance on a bilateral basis or through the Technical Secretariat regarding methods and technologies for the safe and efficient destruction of chemical weapons.

13. In carrying out verification activities pursuant to this Article and Part IV (A) of the Verification Annex, the Organization shall consider measures to avoid unnecessary duplication of bilateral or multilateral agreements on verification of chemical weapons storage and their destruction among States Parties.

To this end, the Executive Council shall decide to limit verification to measures complementary to those undertaken pursuant to such a bilateral or multilateral agreement, if it considers that:

(a) Verification provisions of such an agreement are consistent with the verification provisions of this Article and Part IV (A) of the Verification Annex;

(b) Implementation of such an agreement provides for sufficient assurance of compliance with the relevant provisions of this Convention; and

(c) Parties to the bilateral or multilateral agreement keep the Organization fully informed about their verification activities.

14. If the Executive Council takes a decision pursuant to paragraph 13, the Organization shall have the right to monitor the implementation of the bilateral or multilateral agreement.

15. Nothing in paragraphs 13 and 14 shall affect the obligation of a State Party to provide declarations pursuant to Article III, this Article and Part IV (A) of the Verification Annex.

16. Each State Party shall meet the costs of destruction of chemical weapons it is obliged to destroy. It shall also meet the costs of verification of storage and destruction of these chemical weapons unless the Executive Council decides otherwise. If the Executive Council decides to limit verification measures of the Organization pursuant to paragraph 13, the costs of complementary verification and monitoring by the Organization shall be paid in accordance with the United Nations scale of assessment, as specified in Article VIII, paragraph 7.

17. The provisions of this Article and the relevant provisions of Part IV of the Verification Annex shall not, at the discretion of a State Party, apply to chemical weapons buried on its territory before 1 January 1977 and which remain buried, or which had been dumped at sea before 1 January 1985.

ARTICLE V

CHEMICAL WEAPONS PRODUCTION FACILITIES

1. The provisions of this Article and the detailed procedures for its implementation shall apply to any and all chemical weapons production facilities owned or possessed by a State Party, or that are located in any place under its jurisdiction or control.

2. Detailed procedures for the implementation of this Article are set forth in the Verification Annex.

3. All chemical weapons production facilities specified in paragraph 1 shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments in accordance with Part V of the Verification Annex.

4. Each State Party shall cease immediately all activity at chemical weapons production facilities specified in paragraph 1, except activity required for closure.

5. No State Party shall construct any new chemical weapons production facilities or modify any existing facilities for the purpose of chemical weapons production or for any other activity prohibited under this Convention.

6. Each State Party shall, immediately after the declaration under Article III, paragraph 1 (c), has been submitted, provide access to chemical weapons production facilities specified in paragraph 1, for the purpose of systematic verification of the declaration through on-site inspection.

7. Each State Party shall:

(a) Close, not later than 90 days after this Convention enters into force for it, all chemical weapons production facilities specified in paragraph 1, in accordance with Part V of the Verification Annex, and give notice thereof; and

(b) Provide access to chemical weapons production facilities specified in paragraph 1, subsequent to closure, for the purpose of systematic verification through on-site inspection and monitoring with on-site instruments in order to ensure that the facility remains closed and is subsequently destroyed.

8. Each State Party shall destroy all chemical weapons production facilities specified in paragraph 1 and related facilities and equipment, pursuant to the Verification Annex and in accordance with an agreed rate and sequence of destruction (hereinafter referred to as "order of destruction"). Such destruction shall begin not later than one year after this Convention enters into force for it, and shall finish not later than 10 years after entry into force of this Convention. A State Party is not precluded from destroying such facilities at a faster rate.

9. Each State Party shall:

(a) Submit detailed plans for destruction of chemical weapons production facilities specified in paragraph 1, not later than 180 days before the destruction of each facility begins;

(b) Submit declarations annually regarding the implementation of its plans for the destruction of all chemical weapons production facilities specified in paragraph 1, not later than 90 days after the end of each annual destruction period; and

(c) Certify, not later than 30 days after the destruction process has been completed, that all chemical weapons production facilities specified in paragraph 1 have been destroyed.

10. If a State ratifies or accedes to this Convention after the 10-year period for destruction set forth in paragraph 8, it shall destroy chemical weapons production facilities specified in paragraph 1 as soon as possible. The order of destruction and procedures for stringent verification for such a State Party shall be determined by the Executive Council.

11. Each State Party, during the destruction of chemical weapons production facilities, shall assign the highest priority to ensuring

the safety of people and to protecting the environment. Each State Party shall destroy chemical weapons production facilities in accordance with its national standards for safety and emissions.

12. Chemical weapons production facilities specified in paragraph 1 may be temporarily converted for destruction of chemical weapons in accordance with Part V, paragraphs 18 to 25, of the Verification Annex. Such a converted facility must be destroyed as soon as it is no longer in use for destruction of chemical weapons but, in any case, not later than 10 years after entry into force of this Convention.

13. A State Party may request, in exceptional cases of compelling need, permission to use a chemical weapons production facility specified in paragraph 1 for purposes not prohibited under this Convention. Upon the recommendation of the Executive Council, the Conference of the States Parties shall decide whether or not to approve the request and shall establish the conditions upon which approval is contingent in accordance with Part V, Section D, of the Verification Annex.

14. The chemical weapons production facility shall be converted in such a manner that the converted facility is not more capable of being reconverted into a chemical weapons production facility than any other facility used for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes not involving chemicals listed in Schedule 1.

15. All converted facilities shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments in accordance with Part V, Section D, of the Verification Annex.

16. In carrying out verification activities pursuant to this Article and Part V of the Verification Annex, the Organization shall consider measures to avoid unnecessary duplication of bilateral or multilateral agreements on verification of chemical weapons production facilities and their destruction among States Parties.

To this end, the Executive Council shall decide to limit the verification to measures complementary to those undertaken pursuant to such a bilateral or multilateral agreement, if it considers that:

(a) Verification provisions of such an agreement are consistent with the verification provisions of this Article and Part V of the Verification Annex;

(b) Implementation of the agreement provides for sufficient assurance of compliance with the relevant provisions of this Convention; and

(c) Parties to the bilateral or multilateral agreement keep the Organization fully informed about their verification activities.

17. If the Executive Council takes a decision pursuant to paragraph 16, the Organization shall have the right to monitor the implementation of the bilateral or multilateral agreement.

18. Nothing in paragraphs 16 and 17 shall affect the obligation of a State Party to make declarations pursuant to Article III, this Article and Part V of the Verification Annex.

19. Each State Party shall meet the costs of destruction of chemical weapons production facilities it is obliged to destroy. It shall also meet the costs of verification under this Article unless

the Executive Council decides otherwise. If the Executive Council decides to limit verification measures of the Organization pursuant to paragraph 16, the costs of complementary verification and monitoring by the Organization shall be paid in accordance with the United Nations scale of assessment, as specified in Article VIII, paragraph 7.

ARTICLES VI

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION

1. Each State Party has the right, subject to the provisions of this Convention, to develop, produce, otherwise acquire, retain, transfer and use toxic chemicals and their precursors for purposes not prohibited under this Convention.

2. Each State Party shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred, or used within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention. To this end, and in order to verify that activities are in accordance with obligations under this Convention, each State Party shall subject toxic chemicals and their precursors listed in Schedules 1, 2 and 3 of the Annex on Chemicals, facilities related to such chemicals, and other facilities as specified in the Verification Annex, that are located on its territory or in any other place under its jurisdiction or control, to verification measures as provided in the Verification Annex.

3. Each State Party shall subject chemicals listed in Schedule 1 (hereinafter referred to as "Schedule 1 chemicals") to the prohibitions on production, acquisition, retention, transfer and use as specified in Part VI of the Verification Annex. It shall subject Schedule 1 chemicals and facilities specified in Part VI of the Verification Annex to systematic verification through on-site inspection and monitoring with on-site instruments in accordance with that Part of the Verification Annex.

4. Each State Party shall subject chemicals listed in Schedule 2 (hereinafter referred to as "Schedule 2 chemicals") and facilities specified in Part VII of the Verification Annex to data monitoring and on-site verification in accordance with that Part of the Verification Annex.

5. Each State Party shall subject chemicals listed in Schedule 3 (hereinafter referred to as "Schedule 3 chemicals") and facilities specified in Part VIII of the Verification Annex to data monitoring and on-site verification in accordance with that Part of the Verification Annex.

6. Each State Party shall subject facilities specified in Part IX of the Verification Annex to data monitoring and eventual on-site verification in accordance with that Part of the Verification Annex unless decided otherwise by the Conference of the States Parties pursuant to Part IX, paragraph 22, of the Verification Annex.

7. Not later than 30 days after this Convention enters into force for it, each State Party shall make an initial declaration on relevant chemicals and facilities in accordance with the Verification Annex.

8. Each State Party shall make annual declarations regarding the relevant chemicals and facilities in accordance with the Verification Annex.

9. For the purpose of on-site verification, each State Party shall grant to the inspectors access to facilities as required in the Verification Annex.

10. In conducting verification activities, the Technical Secretariat shall avoid undue intrusion into the State Party's chemical activities for purposes not prohibited under this Convention and, in particular, abide by the provisions set forth in the Annex on the Protection of Confidential Information (hereinafter referred to as "Confidentiality Annex").

11. The provisions of this Article shall be implemented in a manner which avoids hampering the economic or technological development of States Parties, and international cooperation in the field of chemical activities for purposes not prohibited under this Convention including the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for purposes not prohibited under this Convention.

ARTICLE VII

NATIONAL IMPLEMENTATION MEASURES

General undertakings

1. Each State Party shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention. In particular, it shall:

(a) Prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Convention, including enacting penal legislation with respect to such activity;

(b) Not permit in any place under its control any activity prohibited to a State Party under this Convention; and

(c) Extend its penal legislation enacted under subparagraph (a) to any activity prohibited to a State Party under this Convention undertaken anywhere by natural persons, possessing its nationality, in conformity with international law.

2. Each State Party shall cooperate with other States Parties and afford the appropriate form of legal assistance to facilitate the implementation of the obligations under paragraph 1.

3. Each State Party, during the implementation of its obligations under this Convention, shall assign the highest priority to ensuring the safety of people and to protecting the environment, and shall cooperate as appropriate with other States Parties in this regard.

Relations between the State party and the organization

4. In order to fulfil its obligations under this Convention, each State Party shall designate or establish a National Authority to serve as the national focal point for effective liaison with the Organization and other States Parties. Each State Party shall notify the Organization of its National Authority at the time that this Convention enters into force for it.

5. Each State Party shall inform the Organization of the legislative and administrative measures taken to implement this Convention.

6. Each State Party shall treat as confidential and afford special handling to information and data that it receives in confidence from the Organization in connection with the implementation of this Convention. It shall treat such information and data exclusively in connection with its rights and obligations under this Convention and in accordance with the provisions set forth in the Confidentiality Annex.

7. Each State Party undertakes to cooperate with the Organization in the exercise of all its functions and in particular to provide assistance to the Technical Secretariat.

ARTICLE VIII

THE ORGANIZATION

A. General provisions

1. The States Parties to this Convention hereby establish the Organization for the Prohibition of Chemical Weapons to achieve the object and purpose of this Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among States Parties.

2. All States Parties to this Convention shall be members of the Organization. A State Party shall not be deprived of its membership in the Organization.

3. The seat of the Headquarters of the Organization shall be The Hague, Kingdom of the Netherlands.

4. There are hereby established as the organs of the Organization: the Conference of the States Parties, the Executive Council, and the Technical Secretariat.

5. The Organization shall conduct its verification activities provided for under this Convention in the least intrusive manner possible consistent with the timely and efficient accomplishment of their objectives. It shall request only the information and data necessary to fulfil its responsibilities under this Convention. It shall take every precaution to protect the confidentiality of information on civil and military activities and facilities coming to its knowledge in the implementation of this Convention and, in particular, shall abide by the provisions set forth in the Confidentiality Annex.

6. In undertaking its verification activities the Organization shall consider measures to make use of advances in science and technology.

7. The costs of the Organization's activities shall be paid by States Parties in accordance with the United Nations scale of assessment adjusted to take into account differences in membership between the United Nations and this Organization, and subject to the provisions of Articles IV and V. Financial contributions of States Parties to the Preparatory Commission shall be deducted in an appropriate way from their contributions to the regular budget. The budget of the Organization shall comprise two separate chapters, one relating to administrative and other costs, and one relating to verification costs.

8. A member of the Organization which is in arrears in the payment of its financial contribution to the Organization shall have no vote in the Organization if the amount of its arrears equals or exceeds the amount of the contribution due from it for the preceding two full years. The Conference of the States Parties may, nevertheless, permit such a member to vote if it is satisfied that the failure to pay is due to conditions beyond the control of the member.

B. The Conference of the States Parties

Composition, procedures and decision-making

9. The Conference of the States Parties (hereinafter referred to as "the Conference") shall be composed of all members of this Organization. Each member shall have one representative in the Conference, who may be accompanied by alternates and advisers.

10. The first session of the Conference shall be convened by the depositary not later than 30 days after the entry into force of this Convention.

11. The Conference shall meet in regular sessions which shall be held annually unless it decides otherwise.

12. Special sessions of the Conference shall be convened:

(a) When decided by the Conference;

(b) When requested by the Executive Council;

(c) When requested by any member and supported by one third of the members; or

(d) In accordance with paragraph 22 to undertake reviews of the operation of this Convention.

Except in the case of subparagraph (d), the special session shall be convened not later than 30 days after receipt of the request by the Director-General of the Technical Secretariat, unless specified otherwise in the request.

13. The Conference shall also be convened in the form of an Amendment Conference in accordance with Article XV, paragraph 2.

14. Sessions of the Conference shall take place at the seat of the Organization unless the Conference decides otherwise.

15. The Conference shall adopt its rules of procedure. At the beginning of each regular session, it shall elect its Chairman and such other officers as may be required. They shall hold office until a new Chairman and other officers are elected at the next regular session.

16. A majority of the members of the Organization shall constitute a quorum for the Conference.

17. Each member of the Organization shall have one vote in the Conference.

18. The Conference shall take decisions on questions of procedure by a simple majority of the members present and voting. Decisions on matters of substance should be taken as far as possible by consensus. If consensus is not attainable when an issue comes up for decision, the Chairman shall defer any vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Conference before the end of this period. If consensus is not possible at the end of 24 hours, the Conference shall take the decision by a two-thirds

majority of members present and voting unless specified otherwise in this Convention. When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the Conference by the majority required for decisions on matters of substance.

Powers and functions

19. The Conference shall be the principal organ of the Organization. It shall consider any questions, matters or issues within the scope of this Convention, including those relating to the powers and functions of the Executive Council and the Technical Secretariat. It may make recommendations and take decisions on any questions, matters or issues related to this Convention raised by a State Party or brought to its attention by the Executive Council.

20. The Conference shall oversee the implementation of this Convention, and act in order to promote its object and purpose. The Conference shall review compliance with this Convention. It shall also oversee the activities of the Executive Council and the Technical Secretariat and may issue guidelines in accordance with this Convention to either of them in the exercise of their functions.

21. The Conference shall:

(a) Consider and adopt at its regular sessions the report, programme and budget of the Organization, submitted by the Executive Council, as well as consider other reports;

(b) Decide on the scale of financial contributions to be paid by States Parties in accordance with paragraph 7;

(c) Elect the members of the Executive Council;

(d) Appoint the Director-General of the Technical Secretariat (hereinafter referred to as "the Director-General");

(e) Approve the rules of procedure of the Executive Council submitted by the latter;

(f) Establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Convention;

(g) Foster international cooperation for peaceful purposes in the field of chemical activities;

(h) Review scientific and technological developments that could affect the operation of this Convention and, in this context, direct the Director-General to establish a Scientific Advisory Board to enable him, in the performance of his functions, to render specialized advice in areas of science and technology relevant to this Convention, to the Conference, the Executive Council or States Parties. The Scientific Advisory Board shall be composed of independent experts appointed in accordance with terms of reference adopted by the Conference;

(i) Consider and approve at its first session any draft agreements, provisions and guidelines developed by the Preparatory Commission;

(j) Establish at its first session the voluntary fund for assistance in accordance with Article X;

(k) Take the necessary measures to ensure compliance with this Convention and to redress and remedy any situation which contravenes the provisions of this Convention, in accordance with Article XII.

22. The Conference shall not later than one year after the expiry of the fifth and the tenth year after the entry into force of this Convention, and at such other times within that time period as may be decided upon, convene in special sessions to undertake reviews of the operation of this Convention. Such reviews shall take into account any relevant scientific and technological developments. At intervals of five years thereafter, unless otherwise decided upon, further sessions of the Conference shall be convened with the same objective.

C. The Executive Council

Composition, procedure and decision-making

23. The Executive Council shall consist of 41 members. Each State Party shall have the right, in accordance with the principle of rotation, to serve on the Executive Council. The members of the Executive Council shall be elected by the Conference for a term of two years. In order to ensure the effective functioning of this Convention, due regard being specially paid to equitable geographical distribution, to the importance of chemical industry, as well as to political and security interests, the Executive Council shall be composed as follows:

(a) Nine States Parties from Africa to be designated by States Parties located in this region. As a basis for this designation it is understood that, out of these nine States Parties, three members shall, as a rule, be the States Parties with the most significant national chemical industry in the region as determined by internationally reported and published data; in addition, the regional group shall agree also to take into account other regional factors in designating these three members;

(b) Nine States Parties from Asia to be designated by States Parties located in this region. As a basis for this designation it is understood that, out of these nine States Parties, four members shall, as a rule, be the States Parties with the most significant national chemical industry in the region as determined by internationally reported and published data; in addition, the regional group shall agree also to take into account other regional factors in designating these four members;

(c) Five States Parties from Eastern Europe to be designated by States Parties located in this region. As a basis for this designation it is understood that, out of these five States Parties, one member shall, as a rule, be the State Party with the most significant national chemical industry in the region as determined by internationally reported and published data; in addition, the regional group shall agree also to take into account other regional factors in designating this one member;

(d) Seven States Parties from Latin America and the Caribbean to be designated by States Parties located in this region. As a basis for this designation it is understood that, out of these seven States Parties, three members shall, as a rule, be the States Parties with the most significant national chemical industry in the region as determined by internationally reported and published data; in addition, the regional group

shall agree also to take into account other regional factors in designating these three members;

(e) Ten States Parties from among Western European and other States to be designated by States Parties located in this region. As a basis for this designation it is understood that, out of these 10 States Parties, 5 members shall, as a rule, be the States Parties with the most significant national chemical industry in the region as determined by internationally reported and published data; in addition, the regional group shall agree also to take into account other regional factors in designating these five members;

(f) One further State Party to be designated consecutively by States Parties located in the regions of Asia and Latin America and the Caribbean. As a basis for this designation it is understood that this State Party shall be a rotating member from these regions.

24. For the first election of the Executive Council 20 members shall be elected for a term of one year, due regard being paid to the established numerical proportions as described in paragraph 23.

25. After the full implementation of Articles IV and V the Conference may, upon the request of a majority of the members of the Executive Council, review the composition of the Executive Council taking into account developments related to the principles specified in paragraph 23 that are governing its composition.

26. The Executive Council shall elaborate its rules of procedure and submit them to the Conference for approval.

27. The Executive Council shall elect its Chairman from among its members.

28. The Executive Council shall meet for regular sessions. Between regular sessions it shall meet as often as may be required for the fulfillment of its powers and functions.

29. Each member of the Executive Council shall have one vote. Unless otherwise specified in this Convention, the Executive Council shall take decisions on matters of substance by a two-thirds majority of all its members. The Executive Council shall take decisions on questions of procedure by a simple majority of all its members. When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the Executive Council by the majority required for decisions on matters of substance.

Powers and functions

30. The Executive Council shall be the executive organ of the Organization. It shall be responsible to the Conference. The Executive Council shall carry out the powers and functions entrusted to it under this Convention, as well as those functions delegated to it by the Conference. In so doing, it shall act in conformity with the recommendations, decisions and guidelines of the Conference and assure their proper and continuous implementation.

31. The Executive Council shall promote the effective implementation of, and compliance with, this Convention. It shall supervise the activities of the Technical Secretariat, cooperate with the Na-

tional Authority of each State Party and facilitate consultations and cooperation among States Parties at their request.

32. The Executive Council shall:

(a) Consider and submit to the Conference the draft programme and budget of the Organization;

(b) Consider and submit to the Conference the draft report of the Organization on the implementation of this Convention, the report on the performance of its own activities and such special reports as it deems necessary or which the Conference may request;

(c) Make arrangements for the sessions of the Conference including the preparation of the draft agenda.

33. The Executive Council may request the convening of a special session of the Conference.

34. The Executive Council shall:

(a) Conclude agreements or arrangements with States and international organizations on behalf of the Organization, subject to prior approval by the Conference;

(b) Conclude agreements with States Parties on behalf of the Organization in connection with Article X and supervise the voluntary fund referred to in Article X;

(c) Approve agreements or arrangements relating to the implementation of verification activities, negotiated by the Technical Secretariat with States Parties.

35. The Executive Council shall consider any issue or matter within its competence affecting this Convention and its implementation, including concerns regarding compliance, and cases of non-compliance, and, as appropriate, inform States Parties and bring the issue or matter to the attention of the Conference.

36. In its consideration of doubts or concerns regarding compliance and cases of non-compliance, including, inter alia, abuse of the rights provided for under this Convention, the Executive Council shall consult with the States Parties involved and, as appropriate, request the State Party to take measures to redress the situation within a specified time. To the extent that the Executive Council considers further action to be necessary, it shall take, inter alia, one or more of the following measures:

(a) Inform all States Parties of the issue or matter;

(b) Bring the issue or matter to the attention of the Conference;

(c) Make recommendations to the Conference regarding measures to redress the situation and to ensure compliance.

The Executive Council shall, in cases of particular gravity and urgency, bring the issue or matter, including relevant information and conclusions, directly to the attention of the United Nations General Assembly and the United Nations Security Council. It shall at the same time inform all States Parties of this step.

D. The Technical Secretariat

37. The Technical Secretariat shall assist the Conference and the Executive Council in the performance of their functions. The Technical Secretariat shall carry out the verification measures provided for in this Convention. It shall carry out the other functions en-

trusted to it under this Convention as well as those functions delegated to it by the Conference and the Executive Council.

38. The Technical Secretariat shall:

(a) Prepare and submit to the Executive Council the draft programme and budget of the Organization;

(b) Prepare and submit to the Executive Council the draft report of the Organization on the implementation of this Convention and such other reports as the Conference or the Executive Council may request;

(c) Provide administrative and technical support to the Conference, the Executive Council and subsidiary organs;

(d) Address and receive communications on behalf of the Organization to and from States Parties on matters pertaining to the implementation of this Convention;

(e) Provide technical assistance and technical evaluation to States Parties in the implementation of the provisions of this Convention, including evaluation of scheduled and unscheduled chemicals.

39. The Technical Secretariat shall:

(a) Negotiate agreements or arrangements relating to the implementation of verification activities with States Parties, subject to approval by the Executive Council;

(b) Not later than 180 days after entry into force of this Convention, coordinate the establishment and maintenance of permanent stockpiles of emergency and humanitarian assistance by States Parties in accordance with Article X, paragraphs 7 (b) and (c). The Technical Secretariat may inspect the items maintained for serviceability. Lists of items to be stockpiled shall be considered and approved by the Conference pursuant to paragraph 21 (i) above;

(c) Administer the voluntary fund referred to in Article X, compile declarations made by the States Parties and register, when requested, bilateral agreements concluded between States Parties or between a State Party and the Organization for the purposes of Article X.

40. The Technical Secretariat shall inform the Executive Council of any problem that has arisen with regard to the discharge of its functions, including doubts, ambiguities or uncertainties about compliance with this Convention that have come to its notice in the performance of its verification activities and that it has been unable to resolve or clarify through its consultations with the State Party concerned.

41. The Technical Secretariat shall comprise a Director-General, who shall be its head and chief administrative officer, inspectors and such scientific, technical and other personnel as may be required.

42. The Inspectorate shall be a unit of the Technical Secretariat and shall act under the supervision of the Director-General.

43. The Director-General shall be appointed by the Conference upon the recommendation of the Executive Council for a term of four years, renewable for one further term, but not thereafter.

44. The Director-General shall be responsible to the Conference and the Executive Council for the appointment of the staff and the organization and functioning of the Technical Secretariat. The

paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of efficiency, competence and integrity. Only citizens of States Parties shall serve as the Director-General, as inspectors or as other members of the professional and clerical staff. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible. Recruitment shall be guided by the principle that the staff shall be kept to a minimum necessary for the proper discharge of the responsibilities of the Technical Secretariat.

45. The Director-General shall be responsible for the organization and functioning of the Scientific Advisory Board referred to in paragraph 21 (h). The Director-General shall, in consultation with States Parties, appoint members of the Scientific Advisory Board, who shall serve in their individual capacity. The members of the Board shall be appointed on the basis of their expertise in the particular scientific fields relevant to the implementation of this Convention. The Director-General may also, as appropriate, in consultation with members of the Board, establish temporary working groups of scientific experts to provide recommendations on specific issues. In regard to the above, States Parties may submit lists of experts to the Director-General.

46. In the performance of their duties, the Director-General, the inspectors and the other members of the staff shall not seek or receive instructions from any Government or from any other source external to the Organization. They shall refrain from any action that might reflect on their positions as international officers responsible only to the Conference and the Executive Council.

47. Each State Party shall respect the exclusively international character of the responsibilities of the Director-General, the inspectors and the other members of the staff and not seek to influence them in the discharge of their responsibilities.

E. Privileges and Immunities

48. The Organization shall enjoy on the territory and in any other place under the jurisdiction or control of a State Party such legal capacity and such privileges and immunities as are necessary for the exercise of its functions.

49. Delegates of States Parties, together with their alternates and advisers, representatives appointed to the Executive Council together with their alternates and advisers, the Director-General and the staff of the Organization shall enjoy such privileges and immunities as are necessary in the independent exercise of their functions in connection with the Organization.

50. The legal capacity, privileges, and immunities referred to in this Article shall be defined in agreements between the Organization and the States Parties as well as in an agreement between the Organization and the State in which the headquarters of the Organization is seated. These agreements shall be considered and approved by the Conference pursuant to paragraph 21 (i).

51. Notwithstanding paragraphs 48 and 49, the privileges and immunities enjoyed by the Director-General and the staff of the Technical Secretariat during the conduct of verification activities

shall be those set forth in Part II, Section B, of the Verification Annex.

ARTICLE IX

CONSULTATIONS, COOPERATION AND FACT-FINDING

1. States Parties shall consult and cooperate, directly among themselves, or through the Organization or other appropriate international procedures, including procedures within the framework of the United Nations and in accordance with its Charter, on any matter which may be raised relating to the object and purpose, or the implementation of the provisions, of this Convention.

2. Without prejudice to the right of any State Party to request a challenge inspection, States Parties should, whenever possible, first make every effort to clarify and resolve, through exchange of information and consultations among themselves, any matter which may cause doubt about compliance with this Convention, or which gives rise to concerns about a related matter which may be considered ambiguous. A State Party which receives a request from another State Party for clarification of any matter which the requesting State Party believes causes such a doubt or concern shall provide the requesting State Party as soon as possible, but in any case not later than 10 days after the request, with information sufficient to answer the doubt or concern raised along with an explanation of how the information provided resolves the matter. Nothing in this Convention shall affect the right of any two or more States Parties to arrange by mutual consent for inspections or any other procedures among themselves to clarify and resolve any matter which may cause doubt about compliance or gives rise to a concern about a related matter which may be considered ambiguous. Such arrangements shall not affect the rights and obligations of any State Party under other provisions of this Convention.

Procedure for requesting clarification

3. A State Party shall have the right to request the Executive Council to assist in clarifying any situation which may be considered ambiguous or which gives rise to a concern about the possible non-compliance of another State Party with this Convention. The Executive Council shall provide appropriate information in its possession relevant to such a concern.

4. A State Party shall have the right to request the Executive Council to obtain clarification from another State Party on any situation which may be considered ambiguous or which gives rise to a concern about its possible non-compliance with this Convention. In such a case, the following shall apply:

(a) The Executive Council shall forward the request for clarification to the State Party concerned through the Director-General not later than 24 hours after its receipt;

(b) The requested State Party shall provide the clarification to the Executive Council as soon as possible, but in any case not later than 10 days after the receipt of the request;

(c) The Executive Council shall take note of the clarification and forward it to the requesting State Party not later than 24 hours after its receipt;

(d) If the requesting State Party deems the clarification to be inadequate, it shall have the right to request the Executive Council to obtain from the requested State Party further clarification;

(e) For the purpose of obtaining further clarification requested under subparagraph (d), the Executive Council may call on the Director-General to establish a group of experts from the Technical Secretariat, or if appropriate staff are not available in the Technical Secretariat, from elsewhere, to examine all available information and data relevant to the situation causing the concern. The group of experts shall submit a factual report to the Executive Council on its findings;

(f) If the requesting State Party considers the clarification obtained under subparagraphs (d) and (e) to be unsatisfactory, it shall have the right to request a special session of the Executive Council in which States Parties involved that are not members of the Executive Council shall be entitled to take part. In such a special session, the Executive Council shall consider the matter and may recommend any measure it deems appropriate to resolve the situation.

5. A State Party shall also have the right to request the Executive Council to clarify any situation which has been considered ambiguous or has given rise to a concern about its possible non-compliance with this Convention. The Executive Council shall respond by providing such assistance as appropriate.

6. The Executive Council shall inform the States Parties about any request for clarification provided in this Article.

7. If the doubt or concern of a State Party about a possible non-compliance has not been resolved within 60 days after the submission of the request for clarification to the Executive Council, or it believes its doubts warrant urgent consideration, notwithstanding its right to request a challenge inspection, it may request a special session of the Conference in accordance with Article VIII, paragraph 12 (c). At such a special session, the Conference shall consider the matter and may recommend any measure it deems appropriate to resolve the situation.

Procedures for challenge inspections

8. Each State Party has the right to request an on-site challenge inspection of any facility or location in the territory or in any other place under the jurisdiction or control of any other State Party for the sole purpose of clarifying and resolving any questions concerning possible non-compliance with the provisions of this Convention, and to have this inspection conducted anywhere without delay by an inspection team designated by the Director-General and in accordance with the Verification Annex.

9. Each State Party is under the obligation to keep the inspection request within the scope of this Convention and to provide in the inspection request all appropriate information on the basis of which a concern has arisen regarding possible non-compliance with this Convention as specified in the Verification Annex. Each State Party shall refrain from unfounded inspection requests, care being taken to avoid abuse. The challenge inspection shall be carried out

for the sole purpose of determining facts relating to the possible non-compliance.

10. For the purpose of verifying compliance with the provisions of this Convention, each State Party shall permit the Technical Secretariat to conduct the on-site challenge inspection pursuant to paragraph 8.

11. Pursuant to a request for a challenge inspection of a facility or location, and in accordance with the procedures provided for in the Verification Annex, the inspected State Party shall have:

(a) The right and the obligation to make every reasonable effort to demonstrate its compliance with this Convention and, to this end, to enable the inspection team to fulfil its mandate;

(b) The obligation to provide access within the requested site for the sole purpose of establishing facts relevant to the concern regarding possible non-compliance; and

(c) The right to take measures to protect sensitive installations, and to prevent disclosure of confidential information and data, not related to this Convention.

12. With regard to an observer, the following shall apply:

(a) The requesting State Party may, subject to the agreement of the inspected State Party, send a representative who may be a national either of the requesting State Party or of a third State Party, to observe the conduct of the challenge inspection.

(b) The inspected State Party shall then grant access to the observer in accordance with the Verification Annex.

(c) The inspected State Party shall, as a rule, accept the proposed observer, but if the inspected State Party exercises a refusal, that fact shall be recorded in the final report.

13. The requesting State Party shall present an inspection request for an on-site challenge inspection to the Executive Council and at the same time to the Director-General for immediate processing.

14. The Director-General shall immediately ascertain that the inspection request meets the requirements specified in Part X, paragraph 4, of the Verification Annex, and, if necessary, assist the requesting State Party in filing the inspection request accordingly. When the inspection request fulfils the requirements, preparations for the challenge inspection shall begin.

15. The Director-General shall transmit the inspection request to the inspected State Party not less than 12 hours before the planned arrival of the inspection team at the point of entry.

16. After having received the inspection request, the Executive Council shall take cognizance of the Director-General's actions on the request and shall keep the case under its consideration throughout the inspection procedure. However, its deliberations shall not delay the inspection process.

17. The Executive Council may, not later than 12 hours after having received the inspection request, decide by a three-quarter majority of all its members against carrying out the challenge inspection, if it considers the inspection request to be frivolous, abusive or clearly beyond the scope of this Convention as described in paragraph 8. Neither the requesting nor the inspected State Party shall participate in such a decision. If the Executive Council decides against the challenge inspection, preparations shall be

stopped, no further action on the inspection request shall be taken, and the States Parties concerned shall be informed accordingly.

18. The Director-General shall issue an inspection mandate for the conduct of the challenge inspection. The inspection mandate shall be the inspection request referred to in paragraphs 8 and 9 put into operational terms, and shall conform with the inspection request.

19. The challenge inspection shall be conducted in accordance with Part X or, in the case of alleged use, in accordance with Part XI of the Verification Annex. The inspection team shall be guided by the principle of conducting the challenge inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission.

20. The inspected State Party shall assist the inspection team throughout the challenge inspection and facilitate its task. If the inspected State Party proposes, pursuant to Part X, Section C, of the Verification Annex, arrangements to demonstrate compliance with this Convention, alternative to full and comprehensive access, it shall make every reasonable effort, through consultations with the inspection team, to reach agreement on the modalities for establishing the facts with the aim of demonstrating its compliance.

21. The final report shall contain the factual findings as well as an assessment by the inspection team of the degree and nature of access and cooperation granted for the satisfactory implementation of the challenge inspection. The Director-General shall promptly transmit the final report of the inspection team to the requesting State Party, to the inspected State Party, to the Executive Council and to all other States Parties. The Director-General shall further transmit promptly to the Executive Council the assessments of the requesting and of the inspected States Parties, as well as the views of other States Parties which may be conveyed to the Director-General for that purpose, and then provide them to all States Parties.

22. The Executive Council shall, in accordance with its powers and functions, review the final report of the inspection team as soon as it is presented, and address any concerns as to:

(a) Whether any non-compliance has occurred;

(b) Whether the request had been within the scope of this Convention; and

(c) Whether the right to request a challenge inspection had been abused.

23. If the Executive Council reaches the conclusion, in keeping with its powers and functions, that further action may be necessary with regard to paragraph 22, it shall take the appropriate measures to redress the situation and to ensure compliance with this Convention, including specific recommendations to the Conference. In the case of abuse, the Executive Council shall examine whether the requesting State Party should bear any of the financial implications of the challenge inspection.

24. The requesting State Party and the inspected State Party shall have the right to participate in the review process. The Executive Council shall inform the States Parties and the next session of the Conference of the outcome of the process.

25. If the Executive Council has made specific recommendations to the Conference, the Conference shall consider action in accordance with Article XII.

ARTICLE X

ASSISTANCE AND PROTECTION AGAINST CHEMICAL WEAPONS

1. For the purposes of this Article, "Assistance" means the coordination and delivery to States Parties of protection against chemical weapons, including, inter alia, the following: detection equipment and alarm systems; protective equipment; decontamination equipment and decontaminants; medical antidotes and treatments; and advice on any of these protective measures.

2. Nothing in this Convention shall be interpreted as impeding the right of any State Party to conduct research into, develop, produce, acquire, transfer or use means of protection against chemical weapons, for purposes not prohibited under this Convention.

3. Each State Party undertakes to facilitate, and shall have the right to participate in, the fullest possible exchange of equipment, material and scientific and technological information concerning means of protection against chemical weapons.

4. For the purposes of increasing the transparency of national programmes related to protective purposes, each State Party shall provide annually to the Technical Secretariat information on its programme, in accordance with procedures to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

5. The Technical Secretariat shall establish, not later than 180 days after entry into force of this Convention and maintain, for the use of any requesting State Party, a data bank containing freely available information concerning various means of protection against chemical weapons as well as such information as may be provided by States Parties.

The Technical Secretariat shall also, within the resources available to it, and at the request of a State Party, provide expert advice and assist the State Party in identifying how its programmes for the development and improvement of a protective capacity against chemical weapons could be implemented.

6. Nothing in this Convention shall be interpreted as impeding the right of States Parties to request and provide assistance bilaterally and to conclude individual agreements with other States Parties concerning the emergency procurement of assistance.

7. Each State Party undertakes to provide assistance through the Organization and to this end to elect to take one or more of the following measures:

(a) To contribute to the voluntary fund for assistance to be established by the Conference at its first session;

(b) To conclude, if possible not later than 180 days after this Convention enters into force for it, agreements with the Organization concerning the procurement, upon demand, of assistance;

(c) To declare, not later than 180 days after this Convention enters into force for it, the kind of assistance it might provide in response to an appeal by the Organization. If, however, a

State Party subsequently is unable to provide the assistance envisaged in its declaration, it is still under the obligation to provide assistance in accordance with this paragraph.

8. Each State Party has the right to request and, subject to the procedures set forth in paragraphs 9, 10 and 11, to receive assistance and protection against the use or threat of use of chemical weapons if it considers that:

(a) Chemical weapons have been used against it;

(b) Riot control agents have been used against it as a method of warfare; or

(c) It is threatened by actions or activities of any State that are prohibited for States Parties by Article I.

9. The request, substantiated by relevant information, shall be submitted to the Director-General, who shall transmit it immediately to the Executive Council and to all States Parties. The Director-General shall immediately forward the request to States Parties which have volunteered, in accordance with paragraphs 7 (b) and (c), to dispatch emergency assistance in case of use of chemical weapons or use of riot control agents as a method of warfare, or humanitarian assistance in case of serious threat of use of chemical weapons or serious threat of use of riot control agents as a method of warfare to the State Party concerned not later than 12 hours after receipt of the request. The Director-General shall initiate, not later than 24 hours after receipt of the request, an investigation in order to provide foundation for further action. He shall complete the investigation within 72 hours and forward a report to the Executive Council. If additional time is required for completion of the investigation, an interim report shall be submitted within the same time-frame. The additional time required for investigation shall not exceed 72 hours. It may, however, be further extended by similar periods. Reports at the end of each additional period shall be submitted to the Executive Council. The investigation shall, as appropriate and in conformity with the request and the information accompanying the request, establish relevant facts related to the request as well as the type and scope of supplementary assistance and protection needed.

10. The Executive Council shall meet not later than 24 hours after receiving an investigation report to consider the situation and shall take a decision by simple majority within the following 24 hours on whether to instruct the Technical Secretariat to provide supplementary assistance. The Technical Secretariat shall immediately transmit to all States Parties and relevant international organizations the investigation report and the decision taken by the Executive Council. When so decided by the Executive Council, the Director-General shall provide assistance immediately. For this purpose, the Director-General may cooperate with the requesting State Party, other States Parties and relevant international organizations. The States Parties shall make the fullest possible efforts to provide assistance.

11. If the information available from the ongoing investigation or other reliable sources would give sufficient proof that there are victims of use of chemical weapons and immediate action is indispensable, the Director-General shall notify all States Parties and shall take emergency measures of assistance, using the resources the

Conference has placed at his disposal for such contingencies. The Director-General shall keep the Executive Council informed of actions undertaken pursuant to this paragraph.

ARTICLE XI

ECONOMIC AND TECHNOLOGICAL DEVELOPMENT

1. The provisions of this Convention shall be implemented in a manner which avoids hampering the economic or technological development of States Parties, and international cooperation in the field of chemical activities for purposes not prohibited under this Convention including the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for purposes not prohibited under this Convention.

2. Subject to the provisions of this Convention and without prejudice to the principles and applicable rules of international law, the States Parties shall:

(a) Have the right, individually or collectively, to conduct research with, to develop, produce, acquire, retain, transfer, and use chemicals;

(b) Undertake to facilitate, and have the right to participate in, the fullest possible exchange of chemicals, equipment and scientific and technical information relating to the development and application of chemistry for purposes not prohibited under this Convention;

(c) Not maintain among themselves any restrictions, including those in any international agreements, incompatible with the obligations undertaken under this Convention, which would restrict or impede trade and the development and promotion of scientific and technological knowledge in the field of chemistry for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;

(d) Not use this Convention as grounds for applying any measures other than those provided for, or permitted, under this Convention nor use any other international agreement for pursuing an objective inconsistent with this Convention;

(e) Undertake to review their existing national regulations in the field of trade in chemicals in order to render them consistent with the object and purpose of this Convention.

ARTICLE XII

MEASURES TO REDRESS A SITUATION AND TO ENSURE COMPLIANCE, INCLUDING SANCTIONS

1. The Conference shall take the necessary measures, as set forth in paragraphs 2, 3 and 4, to ensure compliance with this Convention and to redress and remedy any situation which contravenes the provisions of this Convention. In considering action pursuant to this paragraph, the Conference shall take into account all information and recommendations on the issues submitted by the Executive Council.

2. In cases where a State Party has been requested by the Executive Council to take measures to redress a situation raising prob-

lems with regard to its compliance, and where the State Party fails to fulfill the request within the specified time, the Conference may, inter alia, upon the recommendation of the Executive Council, restrict or suspend the State Party's rights and privileges under this Convention until it undertakes the necessary action to conform with its obligations under this Convention.

3. In cases where serious damage to the object and purpose of this Convention may result from activities prohibited under this Convention, in particular by Article I, the Conference may recommend collective measures to States Parties in conformity with international law.

4. The Conference shall, in cases of particular gravity, bring the issue, including relevant information and conclusions, to the attention of the United Nations General Assembly and the United Nations Security Council.

ARTICLE XIII

RELATION TO OTHER INTERNATIONAL AGREEMENTS

Nothing in this Convention shall be interpreted as in any way limiting or detracting from the obligations assumed by any State under the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, and under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed at London, Moscow and Washington on 10 April 1972.

ARTICLE XIV

SETTLEMENT OF DISPUTES

1. Disputes that may arise concerning the application or the interpretation of this Convention shall be settled in accordance with the relevant provisions of this Convention and in conformity with the provisions of the Charter of the United Nations.

2. When a dispute arises between two or more States Parties, or between one or more States Parties and the Organization, relating to the interpretation or application of this Convention, the parties concerned shall consult together with a view to the expeditious settlement of the dispute by negotiation or by other peaceful means of the parties' choice, including recourse to appropriate organs of this Convention and, by mutual consent, referral to the International Court of Justice in conformity with the Statute of the Court. The States Parties involved shall keep the Executive Council informed of actions being taken.

3. The Executive Council may contribute to the settlement of a dispute by whatever means it deems appropriate, including offering its good offices, calling upon the States Parties to a dispute to start the settlement process of their choice and recommending a time-limit for any agreed procedure.

4. The Conference shall consider questions related to disputes raised by States Parties or brought to its attention by the Executive Council. The Conference shall, as it finds necessary, establish

or entrust organs with tasks related to the settlement of these disputes in conformity with Article VIII, paragraph 21 (f).

5. The Conference and the Executive Council are separately empowered, subject to authorization from the General Assembly of the United Nations, to request the International Court of Justice to give an advisory opinion on any legal question arising within the scope of the activities of the Organization. An agreement between the Organization and the United Nations shall be concluded for this purpose in accordance with Article VIII, paragraph 34 (a).

6. This Article is without prejudice to Article IX or to the provisions on measures to redress a situation and to ensure compliance, including sanctions.

ARTICLE XV

AMENDMENTS

1. Any State Party may propose amendments to this Convention. Any State Party may also propose changes, as specified in paragraph 4, to the Annexes of this Convention. Proposals for amendments shall be subject to the procedures in paragraphs 2 and 3. Proposals for changes, as specified in paragraph 4, shall be subject to the procedures in paragraph 5.

2. The text of a proposed amendment shall be submitted to the Director-General for circulation to all States Parties and to the Depositary. The proposed amendment shall be considered only by an Amendment Conference. Such an Amendment Conference shall be convened if one third or more of the States Parties notify the Director-General not later than 30 days after its circulation that they support further consideration of the proposal. The Amendment Conference shall be held immediately following a regular session of the Conference unless the requesting States Parties ask for an earlier meeting. In no case shall an Amendment Conference be held less than 60 days after the circulation of the proposed amendment.

3. Amendments shall enter into force for all States Parties 30 days after deposit of the instruments of ratification or acceptance by all the States Parties referred to under subparagraph (b) below:

(a) When adopted by the Amendment Conference by a positive vote of a majority of all States Parties with no State Party casting a negative vote; and

(b) Ratified or accepted by all those States Parties casting a positive vote at the Amendment Conference.

4. In order to ensure the viability and the effectiveness of this Convention, provisions in the Annexes shall be subject to changes in accordance with paragraph 5, if proposed changes are related only to matters of an administrative or technical nature. All changes to the Annex on Chemicals shall be made in accordance with paragraph 5. Sections A and C of the Confidentiality Annex, Part X of the Verification Annex, and those definitions in Part I of the Verification Annex which relate exclusively to challenge inspections, shall not be subject to changes in accordance with paragraph 5.

5. Proposed changes referred to in paragraph 4 shall be made in accordance with the following procedures:

(a) The text of the proposed changes shall be transmitted together with the necessary information to the Director-General. Additional information for the evaluation of the proposal may be provided by any State Party and the Director-General. The Director-General shall promptly communicate any such proposals and information to all States Parties, the Executive Council and the Depositary;

(b) Not later than 60 days after its receipt, the Director-General shall evaluate the proposal to determine all its possible consequences for the provisions of this Convention and its implementation and shall communicate any such information to all States Parties and the Executive Council;

(c) The Executive Council shall examine the proposal in the light of all information available to it, including whether the proposal fulfils the requirements of paragraph 4. Not later than 90 days after its receipt, the Executive Council shall notify its recommendation, with appropriate explanations, to all States Parties for consideration. States Parties shall acknowledge receipt within 10 days;

(d) If the Executive Council recommends to all States Parties that the proposal be adopted, it shall be considered approved if no State Party objects to it within 90 days after receipt of the recommendation. If the Executive Council recommends that the proposal be rejected, it shall be considered rejected if no State Party objects to the rejection within 90 days after receipt of the recommendation;

(e) If a recommendation of the Executive Council does not meet with the acceptance required under subparagraph (d), a decision on the proposal, including whether it fulfils the requirements of paragraph 4, shall be taken as a matter of substance by the Conference at its next session;

(f) The Director-General shall notify all States Parties and the Depositary of any decision under this paragraph;

(g) Changes approved under this procedure shall enter into force for all States Parties 180 days after the date of notification by the Director-General of their approval unless another time period is recommended by the Executive Council or decided by the Conference.

ARTICLE XVI

DURATION AND WITHDRAWAL

1. This Convention shall be of unlimited duration.

2. Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Convention if it decides that extraordinary events, related to the subject-matter of this Convention, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal 90 days in advance to all other States Parties, the Executive Council, the Depositary and the United Nations Security Council. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

3. The withdrawal of a State Party from this Convention shall not in any way affect the duty of States to continue fulfilling the

obligations assumed under any relevant rules of international law, particularly the Geneva Protocol of 1925.

ARTICLE XVII

STATUS OF THE ANNEXES

The Annexes form an integral part of this Convention. Any reference to this Convention includes the Annexes.

ARTICLE XVIII

SIGNATURE

This Convention shall be open for signature for all States before its entry into force.

ARTICLE XIX

RATIFICATION

This Convention shall be subject to ratification by States Signatories according to their respective constitutional processes.

ARTICLE XX

ACCESSION

Any State which does not sign this Convention before its entry into force may accede to it at any time thereafter.

ARTICLE XXI

ENTRY INTO FORCE

1. This Convention shall enter into force 180 days after the date of the deposit of the 65th instrument of ratification, but in no case earlier than two years after its opening for signature.

2. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the 30th day following the date of deposit of their instrument of ratification or accession.

ARTICLE XXII

RESERVATIONS

The Articles of this Convention shall not be subject to reservations. The Annexes of this Convention shall not be subject to reservations incompatible with its object and purpose.

ARTICLE XXIII

DEPOSITARY

The Secretary-General of the United Nations is hereby designated as the Depositary of this Convention and shall, inter alia:

(a) Promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession and the date of the entry into force of this Convention, and of the receipt of other notices;

(b) Transmit duly certified copies of this Convention to the Governments of all signatory and acceding States; and

(c) Register this Convention pursuant to Article 102 of the Charter of the United Nations.

ARTICLE XXIV

AUTHENTIC TEXTS

This Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

In Witness Whereof the undersigned, being duly authorized to that effect, have signed this Convention.

Done at Paris on the thirteenth day of January, one thousand nine hundred and ninety-three.

ANNEX ON CHEMICALS

A. GUIDELINES FOR SCHEDULES ON CHEMICALS

Guidelines for schedule 1

1. The following criteria shall be taken into account in considering whether a toxic chemical or precursor should be included in Schedule 1:

(a) It has been developed, produced, stockpiled or used as a chemical weapon as defined in Article II;

(b) It poses otherwise a high risk to the object and purpose of this Convention by virtue of its high potential for use in activities prohibited under this Convention because one or more of the following conditions are met:

(i) It possesses a chemical structure closely related to that of other toxic chemicals listed in Schedule 1, and has, or can be expected to have, comparable properties;

(ii) It possesses such lethal or incapacitating toxicity as well as other properties that would enable it to be used as a chemical weapon;

(iii) It may be used as a precursor in the final single technological stage of production of a toxic chemical listed in Schedule 1, regardless of whether this stage takes place in facilities, in munitions or elsewhere;

(c) It has little or no use for purposes not prohibited under this Convention.

Guidelines for schedule 2

2. The following criteria shall be taken into account in considering whether a toxic chemical not listed in Schedule 1 or a precursor to a Schedule 1 chemical or to a chemical listed in Schedule 2, part A, should be included in Schedule 2:

(a) It poses a significant risk to the object and purpose of this Convention because it possesses such lethal or incapacitating toxicity as well as other properties that could enable it to be used as a chemical weapon;

(b) It may be used as a precursor in one of the chemical reactions at the final stage of formation of a chemical listed in Schedule 1 or Schedule 2, part A;

(c) It poses a significant risk to the object and purpose of this Convention by virtue of its importance in the production of a chemical listed in Schedule 1 or Schedule 2, part A;

(d) It is not produced in large commercial quantities for purposes not prohibited under this Convention.

Guidelines for schedule 3

3. The following criteria shall be taken into account in considering whether a toxic chemical or precursor, not listed in other Schedules, should be included in Schedule 3:

(a) It has been produced, stockpiled or used as a chemical weapon;

(b) It poses otherwise a risk to the object and purpose of this Convention because it possesses such lethal or incapacitating toxicity as well as other properties that might enable it to be used as a chemical weapon;

(c) It poses a risk to the object and purpose of this Convention by virtue of its importance in the production of one or more chemicals listed in Schedule 1 or Schedule 2, part B;

(d) It may be produced in large commercial quantities for purposes not prohibited under this Convention.

B. SCHEDULES OF CHEMICALS

The following Schedules list toxic chemicals and their precursors. For the purpose of implementing this Convention, these Schedules identify chemicals for the application of verification measures according to the provisions of the Verification Annex. Pursuant to Article II, subparagraph 1 (a), these Schedules do not constitute a definition of chemical weapons.

(Whenever reference is made to groups of dialkylated chemicals, followed by a list of alkyl groups in parentheses, all chemicals possible by all possible combinations of alkyl groups listed in the parentheses are considered as listed in the respective Schedule as long as they are not explicitly exempted. A chemical marked "*" on Schedule 2, part A, is subject to special thresholds for declaration and verification, as specified in Part VII of the Verification Annex.)

Schedule 1

	(CAS registry number)
A. Toxic chemicals:	
(1) O-Alkyl ($<C\leq_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates:	
e.g. Sarin: O-Isopropyl methylphosphonofluoridate	(107–44–8)
Soman: O-Pinacolyl methylphosphonofluoridate	(96–64–0)
(2) O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates:	
e.g. Tabun: O-Ethyl N,N-dimethyl phosphoramidocyanidate	(77–81–6)
(3) O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts:	
e.g. VX: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate	(50782–69–9)
(4) Sulfur mustards:	
2-Chloroethylchloromethylsulfide	(2625–76–5)
Mustard gas: Bis(2-chloroethyl)sulfide	(505–60–2)
Bis(2-chloroethylthio)methane	(63869–13–6)

	(CAS registry number)
Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane	(3563–36–8)
1,3-Bis(2-chloroethylthio)-n-propane	(63905–10–2)
1,4-Bis(2-chloroethylthio)-n-butane	(142868–93–7)
1,5-Bis(2-chloroethylthio)-n-pentane	(142868–94–8)
Bis(2-chloroethylthiomethyl)ether	(63918–90–1)
O-Mustard: Bis(2-chloroethylthioethyl)ether	(63918–89–8)
(5) Lewisites:	
Lewisite 1: 2-Chlorovinyldichloroarsine	(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) Saxitoxin	(35523–89–8)
(8) Ricin	(9009–86–3)
B. Precursors:	
(9) Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides:	
e.g. DF: Methylphosphonyldifluoride	(676–99–3)
(10) O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding alkylated or protonated salts:	
e.g. QL: O-Ethyl O-2-diisopropylaminoethyl methylphosphonite	(57856–11–8)
(11) Chlorosarin: O-Isopropyl methylphosphonochloridate	(1445–76–7)
(12) Chlorosoman: O-Pinacolyl methylphosphonochloridate	(7040–57–5)

Schedule 2

A. Toxic chemicals:	
(1) Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate and corresponding alkylated or protonated salts	(78–53–5)
(2)PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene	(382–21–8)
(3) BZ: 3-Quinuclidinyl benzilate (*)	(6581–06–2)
B. Precursors:	
(4) Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms:	
e.g. Methylphosphonyl dichloride	(676–97–1)
Dimethyl methylphosphonate	(756–79–6)
Exemption: Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate	(944–22–9)
(5) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides:	
(6) Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidates:	
(7) Arsenic trichloride	(7784–34–1)
(8) 2,2-Diphenyl-2-hydroxyacetic acid	(76–93–7)
(9) Quinuclidine-3-ol	(1619–34–7)
(10) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts:	
(11) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts:	
Exemptions: N,N-Dimethylaminoethanol and corresponding protonated salts	(108–01–0)
N,N-Diethylaminoethanol and corresponding protonated salts	(100–37–8)
(12) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts:	
(13) Thiodiglycol: Bis(2-hydroxyethyl)sulfide	(111–48–8)
(14) Pinacolyl alcohol: 3,3-Dimethylbutane-2-ol	(464–07–3)

Schedule 3

A. Toxic chemicals:	
(1) Phosgene: Carbonyl dichloride	(75–44–5)
(2) Cyanogen chloride	(506–77–4)

(3) Hydrogen cyanide	(74–90–8)
(4) Chloropicrin: Trichloronitromethane	(76–06–2)
B. Precursors:	
(5) Phosphorus oxychloride	(10025–87–3)
(6) Phosphorus trichloride	(7719–12–2)
(7) Phosphorus pentachloride	(10026–13–8)
(8) Trimethyl phosphite	(121–45–9)
(9) Triethyl phosphite	(122–52–1)
(10) Dimethyl phosphite	(868–85–9)
(11) Diethyl phosphite	(762–04–9)
(12) Sulfur monochloride	(10025–67–9)
(13) Sulfur dichloride	(10545–99–0)
(14) Thionyl chloride	(7719–09–7)
(15) Ethyldiethanolamine	(139–87–7)
(16) Methyldiethanolamine	(105–59–9)
(17) Triethanolamine	(102–71–6)

ANNEX ON IMPLEMENTATION AND VERIFICATION

("VERIFICATION ANNEX")

PART I

DEFINITIONS

1. "Approved Equipment" means the devices and instruments necessary for the performance of the inspection team's duties that have been certified by the Technical Secretariat in accordance with regulations prepared by the Technical Secretariat pursuant to Part II, paragraph 27 of this Annex. Such equipment may also refer to the administrative supplies or recording materials that would be used by the inspection team.

2. "Building" as referred to in the definition of chemical weapons production facility in Article II comprises specialized buildings and standard buildings.

(a) "Specialized Building" means:

(i) Any building, including underground structures, containing specialized equipment in a production or filling configuration;

(ii) Any building, including underground structures, which has distinctive features which distinguish it from buildings normally used for chemical production or filling activities not prohibited under this Convention.

(b) "Standard Building" means any building, including underground structures, constructed to prevailing industry standards for facilities not producing any chemical specified in Article II, paragraph 8 (a) (i), or corrosive chemicals.

3. "Challenge Inspection" means the inspection of any facility or location in the territory or in any other place under the jurisdiction or control of a State Party requested by another State Party pursuant to Article IX, paragraphs 8 to 25.

4. "Discrete Organic Chemical" means any chemical belonging to the class of chemical compounds consisting of all compounds of carbon except for its oxides, sulfides and metal carbonates, identifiable by chemical name, by structural formula, if known, and by Chemical Abstracts Service registry number, if assigned.

5. "Equipment" as referred to in the definition of chemical weapons production facility in Article II comprises specialized equipment and standard equipment.

(a) "Specialized Equipment" means:

(i) The main production train, including any reactor or equipment for product synthesis, separation or purification, any equipment used directly for heat transfer in the final technological stage, such as in reactors or in product separation, as well as any other equipment which has been in contact with any chemical specified in Article II, paragraph 8 (a) (i), or would be in contact with such a chemical if the facility were operated;

(ii) Any chemical weapon filling machines;

(iii) Any other equipment specially designed, built or installed for the operation of the facility as a chemical weapons production facility, as distinct from a facility constructed according to prevailing commercial industry standards for facilities not producing any chemical specified in Article II, paragraph 8(a)(i), or corrosive chemicals, such as: equipment made of high-nickel alloys or other special corrosion-resistant material; special equipment for waste control, waste treatment, air filtering, or solvent recovery; special containment enclosures and safety shields; non-standard laboratory equipment used to analyze toxic chemicals for chemical weapons purposes; custom-designed process control panels; or dedicated spares for specialized equipment.

(b) "Standard Equipment" means:

(i) Production equipment which is generally used in the chemical industry and is not included in the types of specialized equipment;

(ii) Other equipment commonly used in the chemical industry, such as: fire-fighting equipment; guard and security/safety surveillance equipment; medical facilities, laboratory facilities; or communications equipment.

6. "Facility" in the context of Article VI means any of the industrial sites as defined below ("plant site", "plant" and "unit").

(a) "Plant Site" (Works, Factory) means the local integration of one or more plants, with any intermediate administrative levels, which are under one operational control, and includes common infrastructure, such as:

(i) Administration and other offices;
(ii) Repair and maintenance shops;
(iii) Medical center;
(iv) Utilities;
(v) Central analytical laboratory;
(vi) Research and development laboratories;
(vii) Central effluent and waste treatment area; and
(viii) Warehouse storage.

(b) "Plant" (Production facility, Workshop) means a relatively self-contained area, structure or building containing one or more units with auxiliary and associated infrastructure, such as:

(i) Small administrative section;
(ii) Storage/handling areas for feedstock and products;
(iii) Effluent/waste handling/treatment area;
(iv) Control/analytical laboratory;

(v) First aid service/related medical section; and

(vi) Records associated with the movement into, around and from the site, of declared chemicals and their feedstock or product chemicals formed from them, as appropriate.

(c) "Unit" (Production unit, Process unit) means the combination of those items of equipment, including vessels and vessel set up, necessary for the production, processing or consumption of a chemical.

7. "Facility Agreement" means an agreement or arrangement between a State Party and the Organization relating to a specific facility subject to on-site verification pursuant to Articles IV, V and VI.

8. "Host State" means the State on whose territory lie facilities or areas of another State, Party to this Convention, which are subject to inspection under this Convention.

9. "In-Country Escort" means individuals specified by the inspected State Party and, if appropriate, by the Host State, if they so wish, to accompany and assist the inspection team during the in-country period.

10. "In-Country Period" means the period from the arrival of the inspection team at a point of entry until its departure from the State at a point of entry.

11. "Initial Inspection" means the first on-site inspection of facilities to verify declarations submitted pursuant to Articles III, IV, V and VI and this Annex.

12. "Inspected State Party" means the State Party on whose territory or in any other place under its jurisdiction or control an inspection pursuant to this Convention takes place, or the State Party whose facility or area on the territory of a Host State is subject to such an inspection; it does not, however, include the State Party specified in Part II, paragraph 21 of this Annex.

13. "Inspection Assistant" means an individual designated by the Technical Secretariat as set forth in Part II, Section A, of this Annex to assist inspectors in an inspection or visit, such as medical, security and administrative personnel and interpreters.

14. "Inspection Mandate" means the instructions issued by the Director-General to the inspection team for the conduct of a particular inspection.

15. "Inspection Manual" means the compilation of additional procedures for the conduct of inspections developed by the Technical Secretariat.

16. "Inspection Site" means any facility or area at which an inspection is carried out and which is specifically defined in the respective facility agreement or inspection request or mandate or inspection request as expanded by the alternative or final perimeter.

17. "Inspection Team" means the group of inspectors and inspection assistants assigned by the Director-General to conduct a particular inspection.

18. "Inspector" means an individual designated by the Technical Secretariat according to the procedures as set forth in Part II, Section A, of this Annex, to carry out an inspection or visit in accordance with this Convention.

19. "Model Agreement" means a document specifying the general form and content for an agreement concluded between a State Party and the Organization for fulfilling the verification provisions specified in this Annex.

20. "Observer" means a representative of a requesting State Party or a third State Party to observe a challenge inspection.

21. "Perimeter" in case of challenge inspection means the external boundary of the inspection site, defined by either geographic coordinates or description on a map.

(a) "Requested Perimeter" means the inspection site perimeter as specified in conformity with Part X, paragraph 8, of this Annex;

(b) "Alternative Perimeter" means the inspection site perimeter as specified, alternatively to the requested perimeter, by the inspected State Party; it shall conform to the requirements specified in Part X, paragraph 17, of this Annex;

(c) "Final Perimeter" means the final inspection site perimeter as agreed in negotiations between the inspection team and the inspected State Party, in accordance with Part X, paragraphs 16 to 21, of this Annex;

(d) "Declared Perimeter" means the external boundary of the facility declared pursuant to Articles III, IV, V and VI.

22. "Period of Inspection", for the purposes of Article IX, means the period of time from provision of access to the inspection team to the inspection site until its departure from the inspection site, exclusive of time spent on briefings before and after the verification activities.

23. "Period of Inspection", for the purposes of Articles IV, V and VI, means the period of time from arrival of the inspection team at the inspection site until its departure from the inspection site, exclusive of time spent on briefings before and after the verification activities.

24. "Point of Entry"/"Point of Exit" means a location designated for the in-country arrival of inspection teams for inspections pursuant to this Convention or for their departure after completion of their mission.

25. "Requesting State Party" means a State Party which has requested a challenge inspection pursuant to Article IX.

26. "Tonne" means metric ton, i.e. 1,000 kg.

PART II

GENERAL RULES OF VERIFICATION

A. Designation of inspectors and inspection assistants

1. Not later than 30 days after entry into force of this Convention the Technical Secretariat shall communicate, in writing, to all States Parties the names, nationalities and ranks of the inspectors and inspection assistants proposed for designation, as well as a description of their qualifications and professional experiences.

2. Each State Party shall immediately acknowledge receipt of the list of inspectors and inspection assistants, proposed for designation communicated to it. The State Party shall inform the Technical Secretariat in writing of its acceptance of each inspector and inspection assistant, not later than 30 days after acknowledgement

of receipt of the list. Any inspector and inspection assistant included in this list shall be regarded as designated unless a State Party, not later than 30 days after acknowledgement of receipt of the list, declares its non-acceptance in writing. The State Party may include the reason for the objection.

In the case of non-acceptance, the proposed inspector or inspection assistant shall not undertake or participate in verification activities on the territory or in any other place under the jurisdiction or control of the State Party which has declared its non-acceptance. The Technical Secretariat shall, as necessary, submit further proposals in addition to the original list.

3. Verification activities under this Convention shall only be performed by designated inspectors and inspection assistants.

4. Subject to the provisions of paragraph 5, a State Party has the right at any time to object to an inspector or inspection assistant who has already been designated. It shall notify the Technical Secretariat of its objection in writing and may include the reason for the objection. Such objection shall come into effect 30 days after receipt by the Technical Secretariat. The Technical Secretariat shall immediately inform the State Party concerned of the withdrawal of the designation of the inspector or inspection assistant.

5. A State Party that has been notified of an inspection shall not seek to have removed from the inspection team for that inspection any of the designated inspectors or inspection assistants named in the inspection team list.

6. The number of inspectors or inspection assistants accepted by and designated to a State Party must be sufficient to allow for availability and rotation of appropriate numbers of inspectors and inspection assistants.

7. If, in the opinion of the Director-General, the non-acceptance of proposed inspectors or inspection assistants impedes the designation of a sufficient number of inspectors or inspection assistants or otherwise hampers the effective fulfillment of the tasks of the Technical Secretariat, the Director-General shall refer the issue to the Executive Council.

8. Whenever amendments to the above-mentioned lists of inspectors and inspection assistants are necessary or requested, replacement inspectors and inspection assistants shall be designated in the same manner as set forth with respect to the initial list.

9. The members of the inspection team carrying out an inspection of a facility of a State Party located on the territory of another State Party shall be designated in accordance with the procedures set forth in this Annex as applied both to the inspected State Party and the Host State Party.

B. Privileges and immunities

10. Each State Party shall, not later than 30 days after acknowledgement of receipt of the list of inspectors and inspection assistants or of changes thereto, provide multiple entry/exit and/or transit visas and other such documents to enable each inspector or inspection assistant to enter and to remain on the territory of that State Party for the purpose of carrying out inspection activities. These documents shall be valid for at least two years after their provision to the Technical Secretariat.

11. To exercise their functions effectively, inspectors and inspection assistants shall be accorded privileges and immunities as set forth in subparagraphs (a) to (i). Privileges and immunities shall be granted to members of the inspection team for the sake of this Convention and not for the personal benefit of the individuals themselves. Such privileges and immunities shall be accorded to them for the entire period between arrival on and departure from the territory of the inspected State Party or Host State, and thereafter with respect to acts previously performed in the exercise of their official functions.

(a) The members of the inspection team shall be accorded the inviolability enjoyed by diplomatic agents pursuant to Article 29 of the Vienna Convention on Diplomatic Relations of 18 April 1961.

(b) The living quarters and office premises occupied by the inspection team carrying out inspection activities pursuant to this Convention shall be accorded the inviolability and protection accorded to the premises of diplomatic agents pursuant to Article 30, paragraph 1 of the Vienna Convention on Diplomatic Relations.

(c) The papers and correspondence, including records, of the inspection team shall enjoy the inviolability accorded to all papers and correspondence of diplomatic agents pursuant to Article 30, paragraph 2, of the Vienna Convention on Diplomatic Relations. The inspection team shall have the right to use codes for their communications with the Technical Secretariat.

(d) Samples and approved equipment carried by members of the inspection team shall be inviolable subject to provisions contained in this Convention and exempt from all customs duties. Hazardous samples shall be transported in accordance with relevant regulations.

(e) The members of the inspection team shall be accorded the immunities accorded to diplomatic agents pursuant to Article 31, paragraphs 1, 2 and 3, of the Vienna Convention on Diplomatic Relations.

(f) The members of the inspection team carrying out prescribed activities pursuant to this Convention shall be accorded the exemption from dues and taxes accorded to diplomatic agents pursuant to Article 34 of the Vienna Convention on Diplomatic Relations.

(g) The members of the inspection team shall be permitted to bring into the territory of the inspected State Party or Host State Party, without payment of any customs duties or related charges, articles for personal use, with the exception of articles the import or export of which is prohibited by law or controlled by quarantine regulations.

(h) The members of the inspection team shall be accorded the same currency and exchange facilities as are accorded to representatives of foreign Governments on temporary official missions.

(i) The members of the inspection team shall not engage in any professional or commercial activity for personal profit on the territory of the inspected State Party or the Host State.

12. When transiting the territory of non-inspected States Parties, the members of the inspection team shall be accorded the privileges and immunities enjoyed by diplomatic agents pursuant to Article 40, paragraph 1, of the Vienna Convention on Diplomatic Relations. Papers and correspondence, including records, and samples and approved equipment, carried by them, shall be accorded the privileges and immunities set forth in paragraph 11 (c) and (d).

13. Without prejudice to their privileges and immunities the members of the inspection team shall be obliged to respect the laws and regulations of the inspected State Party or Host State and, to the extent that is consistent with the inspection mandate, shall be obliged not to interfere in the internal affairs of that State. If the inspected State Party or Host State Party considers that there has been an abuse of privileges and immunities specified in this Annex, consultations shall be held between the State Party and the Director-General to determine whether such an abuse has occurred and, if so determined, to prevent a repetition of such an abuse.

14. The immunity from jurisdiction of members of the inspection team may be waived by the Director-General in those cases when the Director-General is of the opinion that immunity would impede the course of justice and that it can be waived without prejudice to the implementation of the provisions of this Convention. Waiver must always be express.

15. Observers shall be accorded the same privileges and immunities accorded to inspectors pursuant to this section, except for those accorded pursuant to paragraph 11 (d).

C. Standing arrangements

Points of entry

16. Each State Party shall designate the points of entry and shall supply the required information to the Technical Secretariat not later than 30 days after this Convention enters into force for it. These points of entry shall be such that the inspection team can reach any inspection site from at least one point of entry within 12 hours. Locations of points of entry shall be provided to all States Parties by the Technical Secretariat.

17. Each State Party may change the points of entry by giving notice of such change to the Technical Secretariat. Changes shall become effective 30 days after the Technical Secretariat receives such notification to allow appropriate notification to all States Parties.

18. If the Technical Secretariat considers that there are insufficient points of entry for the timely conduct of inspections or that changes to the points of entry proposed by a State Party would hamper such timely conduct of inspections, it shall enter into consultations with the State Party concerned to resolve the problem.

19. In cases where facilities or areas of an inspected State Party are located on the territory of a Host State Party or where the access from the point of entry to the facilities or areas subject to inspection requires transit through the territory of another State Party, the inspected State Party shall exercise the rights and fulfil the obligations concerning such inspections in accordance with this Annex. The Host State Party shall facilitate the inspection of those

facilities or areas and shall provide for the necessary support to enable the inspection team to carry out its tasks in a timely and effective manner. States Parties through whose territory transit is required to inspect facilities or areas of an inspected State Party shall facilitate such transit.

20. In cases where facilities or areas of an inspected State Party are located on the territory of a State not Party to this Convention, the inspected State Party shall take all necessary measures to ensure that inspections of those facilities or areas can be carried out in accordance with the provisions of this Annex. A State Party that has one or more facilities or areas on the territory of a State not Party to this Convention shall take all necessary measures to ensure acceptance by the Host State of inspectors and inspection assistants designated to that State Party. If an inspected State Party is unable to ensure access, it shall demonstrate that it took all necessary measures to ensure access.

21. In cases where the facilities or areas sought to be inspected are located on the territory of a State Party, but in a place under the jurisdiction or control of a State not Party to this Convention, the State Party shall take all necessary measures as would be required of an inspected State Party and a Host State Party to ensure that inspections of such facilities or areas can be carried out in accordance with the provisions of this Annex. If the State Party is unable to ensure access to those facilities or areas, it shall demonstrate that it took all necessary measures to ensure access. This paragraph shall not apply where the facilities or areas sought to be inspected are those of the State Party.

Arrangements for use of nonscheduled aircraft

22. For inspections pursuant to Article IX and for other inspections where timely travel is not feasible using scheduled commercial transport, an inspection team may need to utilize aircraft owned or chartered by the Technical Secretariat. Not later than 30 days after this Convention enters into force for it, each State Party shall inform the Technical Secretariat of the standing diplomatic clearance number for non-scheduled aircraft transporting inspection teams and equipment necessary for inspection into and out of the territory in which an inspection site is located. Aircraft routings to and from the designated point of entry shall be along established international airways that are agreed upon between the States Parties and the Technical Secretariat as the basis for such diplomatic clearance.

23. When a non-scheduled aircraft is used, the Technical Secretariat shall provide the inspected State Party with a flight plan, through the National Authority, for the aircraft's flight from the last airfield prior to entering the airspace of the State in which the inspection site is located to the point of entry, not less than six hours before the scheduled departure time from that airfield. Such a plan shall be filed in accordance with the procedures of the International Civil Aviation Organization applicable to civil aircraft. For its owned or chartered flights, the Technical Secretariat shall include in the remarks section of each flight plan the standing diplomatic clearance number and the appropriate notation identifying the aircraft as an inspection aircraft.

24. Not less than three hours before the scheduled departure of the inspection team from the last airfield prior to entering the airspace of the State in which the inspection is to take place, the inspected State Party or Host State Party shall ensure that the flight plan filed in accordance with paragraph 23 is approved so that the inspection team may arrive at the point of entry by the estimated arrival time.

25. The inspected State Party shall provide parking, security protection, servicing and fuel as required by the Technical Secretariat for the aircraft of the inspection team at the point of entry when such aircraft is owned or chartered by the Technical Secretariat. Such aircraft shall not be liable for landing fees, departure tax, and similar charges. The Technical Secretariat shall bear the cost of such fuel, security protection and servicing.

Administrative arrangements

26. The inspected State Party shall provide or arrange for the amenities necessary for the inspection team such as communication means, interpretation services to the extent necessary for the performance of interviewing and other tasks, transportation, working space, lodging, meals and medical care. In this regard, the inspected State Party shall be reimbursed by the Organization for such costs incurred by the inspection team.

Approved equipment

27. Subject to paragraph 29, there shall be no restriction by the inspected State Party on the inspection team bringing onto the inspection site such equipment, approved in accordance with paragraph 28, which the Technical Secretariat has determined to be necessary to fulfil the inspection requirements. The Technical Secretariat shall prepare and, as appropriate, update a list of approved equipment, which may be needed for the purposes described above, and regulations governing such equipment which shall be in accordance with this Annex. In establishing the list of approved equipment and these regulations, the Technical Secretariat shall ensure that safety considerations for all the types of facilities at which such equipment is likely to be used, are taken fully into account. A list of approved equipment shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

28. The equipment shall be in the custody of the Technical Secretariat and be designated, calibrated and approved by the Technical Secretariat. The Technical Secretariat shall, to the extent possible, select that equipment which is specifically designed for the specific kind of inspection required. Designated and approved equipment shall be specifically protected against unauthorized alteration.

29. The inspected State Party shall have the right, without prejudice to the prescribed time-frames, to inspect the equipment in the presence of inspection team members at the point of entry, i.e., to check the identity of the equipment brought in or removed from the territory of the inspected State Party or the Host State. To facilitate such identification, the Technical Secretariat shall attach documents and devices to authenticate its designation and approval of

the equipment. The inspection of the equipment shall also ascertain to the satisfaction of the inspected State Party that the equipment meets the description of the approved equipment for the particular type of inspection. The inspected State Party may exclude equipment not meeting that description or equipment without the above-mentioned authentication documents and devices. Procedures for the inspection of equipment shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

30. In cases where the inspection team finds it necessary to use equipment available on site not belonging to the Technical Secretariat and requests the inspected State Party to enable the team to use such equipment, the inspected State Party shall comply with the request to the extent it can.

D. Preinspection activities

Notification

31. The Director-General shall notify the State Party before the planned arrival of the inspection team at the point of entry and within the prescribed time-frames, where specified, of its intention to carry out an inspection.

32. Notifications made by the Director-General shall include the following information:

(a) The type of inspection;

(b) The point of entry;

(c) The date and estimated time of arrival at the point of entry;

(d) The means of arrival at the point of entry;

(e) The site to be inspected;

(f) The names of inspectors and inspection assistants;

(g) If appropriate, aircraft clearance for special flights.

33. The inspected State Party shall acknowledge the receipt of a notification by the Technical Secretariat of an intention to conduct an inspection, not later than one hour after receipt of such notification.

34. In the case of an inspection of a facility of a State Party located on the territory of another State Party, both States Parties shall be simultaneously notified in accordance with paragraphs 31 and 32.

Entry into the territory of the inspected State party or host State and transfer to the inspection site

35. The inspected State Party or Host State Party which has been notified of the arrival of an inspection team, shall ensure its immediate entry into the territory and shall through an in-country escort or by other means do everything in its power to ensure the safe conduct of the inspection team and its equipment and supplies, from its point of entry to the inspection site(s) and to a point of exit.

36. The inspected State Party or Host State Party shall, as necessary, assist the inspection team in reaching the inspection site not later than 12 hours after the arrival at the point of entry.

Pre-inspection briefing

37. Upon arrival at the inspection site and before the commencement of the inspection, the inspection team shall be briefed by facility representatives, with the aid of maps and other documentation as appropriate, on the facility, the activities carried out there, safety measures and administrative and logistic arrangements necessary for the inspection. The time spent for the briefing shall be limited to the minimum necessary and in any event not exceed three hours.

E. Conduct of Inspections

General rules

38. The members of the inspection team shall discharge their functions in accordance with the provisions of this Convention, as well as rules established by the Director-General and facility agreements concluded between States Parties and the Organization.

39. The inspection team shall strictly observe the inspection mandate issued by the Director-General. It shall refrain from activities going beyond this mandate.

40. The activities of the inspection team shall be so arranged as to ensure the timely and effective discharge of its functions and the least possible inconvenience to the inspected State Party or Host State and disturbance to the facility or area inspected. The inspection team shall avoid unnecessarily hampering or delaying the operation of a facility and avoid affecting its safety. In particular, the inspection team shall not operate any facility. If inspectors consider that, to fulfil their mandate, particular operations should be carried out in a facility, they shall request the designated representative of the inspected facility to have them performed. The representative shall carry out the request to the extent possible.

41. In the performance of their duties on the territory of an inspected State Party or Host State, the members of the inspection team shall, if the inspected State Party so requests, be accompanied by representatives of the inspected State Party, but the inspection team must not thereby be delayed or otherwise hindered in the exercise of its functions.

42. Detailed procedures for the conduct of inspections shall be developed for inclusion in the inspection manual by the Technical Secretariat, taking into account guidelines to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

Safety

43. In carrying out their activities, inspectors and inspection assistants shall observe safety regulations established at the inspection site, including those for the protection of controlled environments within a facility and for personal safety. In order to implement these requirements, appropriate detailed procedures shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

Communications

44. Inspectors shall have the right throughout the in-country period to communicate with the Headquarters of the Technical Secretariat. For this purpose they may use their own, duly certified, approved equipment and may request that the inspected State Party or Host State Party provide them with access to other telecommunications. The inspection team shall have the right to use its own two-way system of radio communications between personnel patrolling the perimeter and other members of the inspection team.

Inspection team and inspected State party rights

45. The inspection team shall, in accordance with the relevant Articles and Annexes of this Convention as well as with facility agreements and procedures set forth in the inspection manual, have the right to unimpeded access to the inspection site. The items to be inspected will be chosen by the inspectors.

46. Inspectors shall have the right to interview any facility personnel in the presence of representatives of the inspected State Party with the purpose of establishing relevant facts. Inspectors shall only request information and data which are necessary for the conduct of the inspection, and the inspected State Party shall furnish such information upon request. The inspected State Party shall have the right to object to questions posed to the facility personnel if those questions are deemed not relevant to the inspection. If the head of the inspection team objects and states their relevance, the questions shall be provided in writing to the inspected State Party for reply. The inspection team may note any refusal to permit interviews or to allow questions to be answered and any explanations given, in that part of the inspection report that deals with the cooperation of the inspected State Party.

47. Inspectors shall have the right to inspect documentation and records they deem relevant to the conduct of their mission.

48. Inspectors shall have the right to have photographs taken at their request by representatives of the inspected State Party or of the inspected facility. The capability to take instant development photographic prints shall be available. The inspection team shall determine whether photographs conform to those requested and, if not, repeat photographs shall be taken. The inspection team and the inspected State Party shall each retain one copy of every photograph.

49. The representatives of the inspected State Party shall have the right to observe all verification activities carried out by the inspection team.

50. The inspected State Party shall receive copies, at its request, of the information and data gathered about its facility(ies) by the Technical Secretariat.

51. Inspectors shall have the right to request clarifications in connection with ambiguities that arise during an inspection. Such requests shall be made promptly through the representative of the inspected State Party. The representative of the inspected State Party shall provide the inspection team, during the inspection, with such clarification as may be necessary to remove the ambiguity. If questions relating to an object or a building located within the in-

spection site are not resolved, the object or building shall, if requested, be photographed for the purpose of clarifying its nature and function. If the ambiguity cannot be removed during the inspection, the inspectors shall notify the Technical Secretariat immediately. The inspectors shall include in the inspection report any such unresolved question, relevant clarifications, and a copy of any photographs taken.

Collection, handling and analysis of samples

52. Representatives of the inspected State Party or of the inspected facility shall take samples at the request of the inspection team in the presence of inspectors. If so agreed in advance with the representatives of the inspected State Party or of the inspected facility, the inspection team may take samples itself.

53. Where possible, the analysis of samples shall be performed on-site. The inspection team shall have the right to perform on-site analysis of samples using approved equipment brought by it. At the request of the inspection team, the inspected State Party shall, in accordance with agreed procedures, provide assistance for the analysis of samples on-site. Alternatively, the inspection team may request that appropriate analysis on-site be performed in its presence.

54. The inspected State Party has the right to retain portions of all samples taken or take duplicate samples and be present when samples are analyzed on-site.

55. The inspection team shall, if it deems it necessary, transfer samples for analysis off-site at laboratories designated by the Organization.

56. The Director-General shall have the primary responsibility for the security, integrity and preservation of samples and for ensuring that the confidentiality of samples transferred for analysis off-site is protected. The Director-General shall do so in accordance with procedures, to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i), for inclusion in the inspection manual. He shall:

(a) Establish a stringent regime governing the collection, handling, transport and analysis of samples;

(b) Certify the laboratories designated to perform different types of analysis;

(c) Oversee the standardization of equipment and procedures at these designated laboratories, mobile analytical equipment and procedures, and monitor quality control and overall standards in relation to the certification of these laboratories, mobile equipment and procedures; and

(d) Select from among the designated laboratories those which shall perform analytical or other functions in relation to specific investigations.

57. When off-site analysis is to be performed, samples shall be analysed in at least two designated laboratories. The Technical Secretariat shall ensure the expeditious processing of the analysis. The samples shall be accounted for by the Technical Secretariat and any unused samples or portions thereof shall be returned to the Technical Secretariat.

58. The Technical Secretariat shall compile the results of the laboratory analysis of samples relevant to compliance with this Convention and include them in the final inspection report. The Technical Secretariat shall include in the report detailed information concerning the equipment and methodology employed by the designated laboratories.

Extension of inspection duration

59. Periods of inspection may be extended by agreement with the representative of the inspected State Party.

Debriefing

60. Upon completion of an inspection the inspection team shall meet with representatives of the inspected State Party and the personnel responsible for the inspection site to review the preliminary findings of the inspection team and to clarify any ambiguities. The inspection team shall provide to the representatives of the inspected State Party its preliminary findings in written form according to a standardized format, together with a list of any samples and copies of written information and data gathered and other material to be taken off-site. The document shall be signed by the head of the inspection team. In order to indicate that he has taken notice of the contents of the document, the representative of the inspected State Party shall countersign the document. This meeting shall be completed not later than 24 hours after the completion of the inspection.

F. Departure

61. Upon completion of the post-inspection procedures, the inspection team shall leave, as soon as possible, the territory of the inspected State Party or the Host State.

G. Reports

62. Not later than 10 days after the inspection, the inspectors shall prepare a factual, final report on the activities conducted by them and on their findings. It shall only contain facts relevant to compliance with this Convention, as provided for under the inspection mandate. The report shall also provide information as to the manner in which the State Party inspected cooperated with the inspection team. Differing observations made by inspectors may be attached to the report. The report shall be kept confidential.

63. The final report shall immediately be submitted to the inspected State Party. Any written comments, which the inspected State Party may immediately make on its findings shall be annexed to it. The final report together with annexed comments made by the inspected State Party shall be submitted to the Director-General not later than 30 days after the inspection.

64. Should the report contain uncertainties, or should cooperation between the National Authority and the inspectors not measure up to the standards required, the Director-General shall approach the State Party for clarification.

65. If the uncertainties cannot be removed or the facts established are of a nature to suggest that obligations undertaken under

this Convention have not been met, the Director-General shall inform the Executive Council without delay.

H. Application of general provisions

66. The provisions of this Part shall apply to all inspections conducted pursuant to this Convention, except where the provisions of this Part differ from the provisions set forth for specific types of inspections in Parts III to XI of this Annex, in which case the latter provisions shall take precedence.

PART III

GENERAL PROVISIONS FOR VERIFICATION MEASURES PURSUANT TO ARTICLES IV, V AND VI, PARAGRAPH 3

A. Initial inspections and facility agreements

1. Each declared facility subject to on-site inspection pursuant to Articles IV, V, and VI, paragraph 3, shall receive an initial inspection promptly after the facility is declared. The purpose of this inspection of the facility shall be to verify information provided and to obtain any additional information needed for planning future verification activities at the facility, including on-site inspections and continuous monitoring with on-site instruments, and to work on the facility agreements.

2. States Parties shall ensure that the verification of declarations and the initiation of the systematic verification measures can be accomplished by the Technical Secretariat at all facilities within the established time-frames after this Convention enters into force for them.

3. Each State Party shall conclude a facility agreement with the Organization for each facility declared and subject to on-site inspection pursuant to Articles IV, V, and VI, paragraph 3.

4. Facility agreements shall be completed not later than 180 days after this Convention enters into force for the State Party or after the facility has been declared for the first time, except for a chemical weapons destruction facility to which paragraphs 5 to 7 shall apply.

5. In the case of a chemical weapons destruction facility that begins operations more than one year after this Convention enters into force for the State Party, the facility agreement shall be completed not less than 180 days before the facility begins operation.

6. In the case of a chemical weapons destruction facility that is in operation when this Convention enters into force for the State Party, or begins operation not later than one year thereafter, the facility agreement shall be completed not later than 210 days after this Convention enters into force for the State Party, except that the Executive Council may decide that transitional verification arrangements, approved in accordance with Part IV (A), paragraph 51, of this Annex and including a transitional facility agreement, provisions for verification through on-site inspection and monitoring with on-site instruments, and the time-frame for application of the arrangements, are sufficient.

7. In the case of a facility, referred to in paragraph 6, that will cease operations not later than two years after this Convention enters into force for the State Party, the Executive Council may de-

cide that transitional verification arrangements, approved in accordance with Part IV (A), paragraph 51, of this Annex and including a transitional facility agreement, provisions for verification through on-site inspection and monitoring with on-site instruments, and the time-frame for application of the arrangements, are sufficient.

8. Facility agreements shall be based on models for such agreements and provide for detailed arrangements which shall govern inspections at each facility. The model agreements shall include provisions to take into account future technological developments and shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

9. The Technical Secretariat may retain at each site a sealed container for photographs, plans and other information that it may wish to refer to in the course of subsequent inspections.

B. Standing arrangements

10. Where applicable, the Technical Secretariat shall have the right to have continuous monitoring instruments and systems and seals installed and to use them, in conformity with the relevant provisions in this Convention and the facility agreements between States Parties and the Organization.

11. The inspected State Party shall, in accordance with agreed procedures, have the right to inspect any instrument used or installed by the inspection team and to have it tested in the presence of representatives of the inspected State Party. The inspection team shall have the right to use the instruments that were installed by the inspected State Party for its own monitoring of the technological process of the destruction of chemical weapons. To this end, the inspection team shall have the right to inspect those instruments that it intends to use for purposes of verification of the destruction of chemical weapons and to have them tested in its presence.

12. The inspected State Party shall provide the necessary preparation and support for the establishment of continuous monitoring instruments and systems.

13. In order to implement paragraphs 11 and 12, appropriate detailed procedures shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

14. The inspected State Party shall immediately notify the Technical Secretariat if an event occurs or may occur at a facility where monitoring instruments are installed, which may have an impact on the monitoring system. The inspected State Party shall coordinate subsequent actions with the Technical Secretariat with a view to restoring the operation of the monitoring system and establishing interim measures, if necessary, as soon as possible.

15. The inspection team shall verify during each inspection that the monitoring system functions correctly and that emplaced seals have not been tampered with. In addition, visits to service the monitoring system may be required to perform any necessary maintenance or replacement of equipment, or to adjust the coverage of the monitoring system as required.

16. If the monitoring system indicates any anomaly, the Technical Secretariat shall immediately take action to determine wheth-

er this resulted from equipment malfunction or activities at the facility. If, after this examination, the problem remains unresolved, the Technical Secretariat shall immediately ascertain the actual situation, including through immediate on-site inspection of, or visit to, the facility if necessary. The Technical Secretariat shall report any such problem immediately after its detection to the inspected State Party which shall assist in its resolution.

C. Pre-inspection activities

17. The inspected State Party shall, except as specified in paragraph 18, be notified of inspections not less than 24 hours in advance of the planned arrival of the inspection team at the point of entry.

18. The inspected State Party shall be notified of initial inspections not less than 72 hours in advance of the estimated time of arrival of the inspection team at the point of entry.

PART IV (A)

DESTRUCTION OF CHEMICAL WEAPONS AND ITS VERIFICATION PURSUANT TO ARTICLE IV

A. Declarations

Chemical weapons

1. The declaration of chemical weapons by a State Party pursuant to Article III, paragraph 1 (a) (ii), shall include the following:

(a) The aggregate quantity of each chemical declared;

(b) The precise location of each chemical weapons storage facility, expressed by:

(i) Name;

(ii) Geographical coordinates; and

(iii) A detailed site diagram, including a boundary map and the location of bunkers/storage areas within the facility.

(c) The detailed inventory for each chemical weapons storage facility including:

(i) Chemicals defined as chemical weapons in accordance with Article II;

(ii) Unfilled munitions, sub-munitions, devices and equipment defined as chemical weapons;

(iii) Equipment specially designed for use directly in connection with the employment of munitions, sub-munitions, devices or equipment specified in sub-subparagraph (ii);

(iv) Chemicals specifically designed for use directly in connection with the employment of munitions, sub-munitions, devices or equipment specified in sub-subparagraph (ii).

2. For the declaration of chemicals referred to in paragraph 1 (c) (i) the following shall apply:

(a) Chemicals shall be declared in accordance with the Schedules specified in the Annex on Chemicals;

(b) For a chemical not listed in the Schedules in the Annex on Chemicals the information required for possible assignment of the chemical to the appropriate Schedule shall be provided,

including the toxicity of the pure compound. For a precursor, the toxicity and identity of the principal final reaction product(s) shall be provided;

(c) Chemicals shall be identified by chemical name in accordance with current International Union of Pure and Applied Chemistry (IUPAC) nomenclature, structural formula and Chemical Abstracts Service registry number, if assigned. For a precursor, the toxicity and identity of the principal final reaction product(s) shall be provided;

(d) In cases involving mixtures of two or more chemicals, each chemical shall be identified and the percentage of each shall be provided, and the mixture shall be declared under the category of the most toxic chemical. If a component of a binary chemical weapon consists of a mixture of two or more chemicals, each chemical shall be identified and the percentage of each provided;

(e) Binary chemical weapons shall be declared under the relevant end product within the framework of the categories of chemical weapons referred to in paragraph 16. The following supplementary information shall be provided for each type of binary chemical munition/device:

(i) The chemical name of the toxic end-product;

(ii) The chemical composition and quantity of each component;

(iii) The actual weight ratio between the components;

(iv) Which component is considered the key component;

(v) The projected quantity of the toxic end-product calculated on a stoichiometric basis from the key component, assuming 100 per cent yield. A declared quantity (in tonnes) of the key component intended for a specific toxic end-product shall be considered equivalent to the quantity (in tonnes) of this toxic end-product calculated on a stoichiometric basis assuming 100 per cent yield.

(f) For multicomponent chemical weapons, the declaration shall be analogous to that envisaged for binary chemical weapons;

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

(i) Type;

(ii) Size or calibre;

(iii) Number of items; and

(iv) Nominal weight of chemical fill per item.

(h) For each chemical the total weight present at the storage facility shall be declared;

(i) In addition, for chemicals stored in bulk, the percentage purity shall be declared, if known.

3. For each type of unfilled munitions, sub-munitions, devices or equipment, referred to in paragraph 1 (c) (ii), the information shall include:

(a) The number of items;

(b) The nominal fill volume per item;

(c) The intended chemical fill.

Declarations of chemical weapons pursuant to article III, paragraph 1 (a) (iii)

4. The declaration of chemical weapons pursuant to Article III, paragraph 1 (a) (iii), shall contain all information specified in paragraphs 1 to 3 above. It is the responsibility of the State Party on whose territory the chemical weapons are located to make appropriate arrangements with the other State to ensure that the declarations are made. If the State Party on whose territory the chemical weapons are located is not able to fulfil its obligations under this paragraph, it shall state the reasons therefor.

Declarations of past transfers and receipts

5. A State Party that has transferred or received chemical weapons since 1 January 1946 shall declare these transfers or receipts pursuant to Article III, paragraph 1 (a) (iv), provided the amount transferred or received exceeded 1 tonne per chemical per year in bulk and/or munition form. This declaration shall be made according to the inventory format specified in paragraphs 1 and 2. This declaration shall also indicate the supplier and recipient countries, the dates of the transfers or receipts and, as precisely as possible, the current location of the transferred items. When not all the specified information is available for transfers or receipts of chemical weapons for the period between 1 January 1946 and 1 January 1970, the State Party shall declare whatever information is still available to it and provide an explanation as to why it cannot submit a full declaration.

Submission of the general plan for destruction of chemical weapons

6. The general plan for destruction of chemical weapons submitted pursuant to Article III, paragraph 1 (a) (v), shall provide an overview of the entire national chemical weapons destruction programme of the State Party and information on the efforts of the State Party to fulfil the destruction requirements contained in this Convention. The plan shall specify:

(a) A general schedule for destruction, giving types and approximate quantities of chemical weapons planned to be destroyed in each annual destruction period for each existing chemical weapons destruction facility and, if possible, for each planned chemical weapons destruction facility;

(b) The number of chemical weapons destruction facilities existing or planned to be operated over the destruction period;

(c) For each existing or planned chemical weapons destruction facility:

(i) Name and location; and

(ii) The types and approximate quantities of chemical weapons, and the type (for example, nerve agent or blister agent) and approximate quantity of chemical fill, to be destroyed;

(d) The plans and programmes for training personnel for the operation of destruction facilities;

(e) The national standards for safety and emissions that the destruction facilities must satisfy;

(f) Information on the development of new methods for destruction of chemical weapons and on the improvement of existing methods;

(g) The cost estimates for destroying the chemical weapons; and

(h) Any issues which could adversely impact on the national destruction programme.

B. Measures to secure the storage facility and storage facility preparation

7. Not later than when submitting its declaration of chemical weapons, a State Party shall take such measures as it considers appropriate to secure its storage facilities and shall prevent any movement of its chemical weapons out of the facilities, except their removal for destruction.

8. A State Party shall ensure that chemical weapons at its storage facilities are configured to allow ready access for verification in accordance with paragraphs 37 to 49.

9. While a storage facility remains closed for any movement of chemical weapons out of the facility other than their removal for destruction, a State Party may continue at the facility standard maintenance activities, including standard maintenance of chemical weapons; safety monitoring and physical security activities; and preparation of chemical weapons for destruction.

10. Maintenance activities of chemical weapons shall not include:

(a) Replacement of agent or of munition bodies;

(b) Modification of the original characteristics of munitions, or parts or components thereof.

11. All maintenance activities shall be subject to monitoring by the Technical Secretariat.

C. Destruction

Principles and methods for destruction of chemical weapons

12. "Destruction of chemical weapons" means a process by which chemicals are converted in an essentially irreversible way to a form unsuitable for production of chemical weapons, and which in an irreversible manner renders munitions and other devices unusable as such.

13. Each State Party shall determine how it shall destroy chemical weapons, except that the following processes may not be used: dumping in any body of water, land burial or open-pit burning. It shall destroy chemical weapons only at specifically designated and appropriately designed and equipped facilities.

14. Each State Party shall ensure that its chemical weapons destruction facilities are constructed and operated in a manner to ensure the destruction of the chemical weapons; and that the destruction process can be verified under the provisions of this Convention.

Order of destruction

15. The order of destruction of chemical weapons is based on the obligations specified in Article I and the other Articles, including obligations regarding systematic on-site verification. It takes into

account interests of States Parties for undiminished security during the destruction period; confidence-building in the early part of the destruction stage; gradual acquisition of experience in the course of destroying chemical weapons; and applicability irrespective of the actual composition of the stockpiles and the methods chosen for the destruction of the chemical weapons. The order of destruction is based on the principle of levelling out.

16. For the purpose of destruction, chemical weapons declared by each State Party shall be divided into three categories:

Category 1: Chemical weapons on the basis of Schedule 1 chemicals and their parts and components;

Category 2: Chemical weapons on the basis of all other chemicals and their parts and components;

Category 3: Unfilled munitions and devices, and equipment specifically designed for use directly in connection with employment of chemical weapons.

17. A State Party shall start:

(a) The destruction of Category 1 chemical weapons not later than two years after this Convention enters into force for it, and shall complete the destruction not later than 10 years after entry into force of this Convention. A State Party shall destroy chemical weapons in accordance with the following destruction deadlines:

(i) Phase 1: Not later than two years after entry into force of this Convention, testing of its first destruction facility shall be completed. Not less than 1 per cent of the Category 1 chemical weapons shall be destroyed not later than three years after the entry into force of this Convention;

(ii) Phase 2: Not less than 20 per cent of the Category 1 chemical weapons shall be destroyed not later than five years after the entry into force of this Convention;

(iii) Phase 3: Not less than 45 per cent of the Category 1 chemical weapons shall be destroyed not later than seven years after the entry into force of this Convention;

(iv) Phase 4: All Category 1 chemical weapons shall be destroyed not later than 10 years after the entry into force of this Convention.

(b) The destruction of Category 2 chemical weapons not later than one year after this Convention enters into force for it and shall complete the destruction not later than five years after the entry into force of this Convention. Category 2 chemical weapons shall be destroyed in equal annual increments throughout the destruction period. The comparison factor for such weapons is the weight of the chemicals within Category 2; and

(c) The destruction of Category 3 chemical weapons not later than one year after this Convention enters into force for it, and shall complete the destruction not later than five years after the entry into force of this Convention. Category 3 chemical weapons shall be destroyed in equal annual increments throughout the destruction period. The comparison factor for unfilled munitions and devices is expressed in nominal fill volume (m^3) and for equipment in number of items.

18. For the destruction of binary chemical weapons the following shall apply:

(a) For the purposes of the order of destruction, a declared quantity (in tonnes) of the key component intended for a specific toxic end-product shall be considered equivalent to the quantity (in tonnes) of this toxic end-product calculated on a stoichiometric basis assuming 100 per cent yield.

(b) A requirement to destroy a given quantity of the key component shall entail a requirement to destroy a corresponding quantity of the other component, calculated from the actual weight ratio of the components in the relevant type of binary chemical munition/device.

(c) If more of the other component is declared than is needed, based on the actual weight ratio between components, the excess shall be destroyed over the first two years after destruction operations begin.

(d) At the end of each subsequent operational year a State Party may retain an amount of the other declared component that is determined on the basis of the actual weight ratio of the components in the relevant type of binary chemical munition/device.

19. For multicomponent chemical weapons the order of destruction shall be analogous to that envisaged for binary chemical weapons.

Modification of intermediate destruction deadlines

20. The Executive Council shall review the general plans for destruction of chemical weapons, submitted pursuant to Article III, paragraph 1 (a) (v), and in accordance with paragraph 6, inter alia, to assess their conformity with the order of destruction set forth in paragraphs 15 to 19. The Executive Council shall consult with any State Party whose plan does not conform, with the objective of bringing the plan into conformity.

21. If a State Party, due to exceptional circumstances beyond its control, believes that it cannot achieve the level of destruction specified for Phase 1, Phase 2 or Phase 3 of the order of destruction of Category 1 chemical weapons, it may propose changes in those levels. Such a proposal must be made not later than 120 days after the entry into force of this Convention and shall contain a detailed explanation of the reasons for the proposal.

22. Each State Party shall take all necessary measures to ensure destruction of Category 1 chemical weapons in accordance with the destruction deadlines set forth in paragraph 17 (a) as changed pursuant to paragraph 21. However, if a State Party believes that it will be unable to ensure the destruction of the percentage of Category 1 chemical weapons required by an intermediate destruction deadline, it may request the Executive Council to recommend to the Conference to grant an extension of its obligation to meet that deadline. Such a request must be made not less than 180 days before the intermediate destruction deadline and shall contain a detailed explanation of the reasons for the request and the plans of the State Party for ensuring that it will be able to fulfil its obligation to meet the next intermediate destruction deadline.

23. If an extension is granted, the State Party shall still be under the obligation to meet the cumulative destruction requirements set forth for the next destruction deadline. Extensions granted pursuant to this Section shall not, in any way, modify the obligation of the State Party to destroy all Category 1 chemical weapons not later than 10 years after the entry into force of this Convention.

Extension of the deadline for completion of destruction

24. If a State Party believes that it will be unable to ensure the destruction of all Category 1 chemical weapons not later than 10 years after the entry into force of this Convention, it may submit a request to the Executive Council for an extension of the deadline for completing the destruction of such chemical weapons. Such a request must be made not later than nine years after the entry into force of this Convention.

25. The request shall contain:

(a) The duration of the proposed extension;

(b) A detailed explanation of the reasons for the proposed extension; and

(c) A detailed plan for destruction during the proposed extension and the remaining portion of the original 10-year period for destruction.

26. A decision on the request shall be taken by the Conference at its next session, on the recommendation of the Executive Council. Any extension shall be the minimum necessary, but in no case shall the deadline for a State Party to complete its destruction of all chemical weapons be extended beyond 15 years after the entry into force of this Convention. The Executive Council shall set conditions for the granting of the extension, including the specific verification measures deemed necessary as well as specific actions to be taken by the State Party to overcome problems in its destruction programme. Costs of verification during the extension period shall be allocated in accordance with Article IV, paragraph 16.

27. If an extension is granted, the State Party shall take appropriate measures to meet all subsequent deadlines.

28. The State Party shall continue to submit detailed annual plans for destruction in accordance with paragraph 29 and annual reports on the destruction of Category 1 chemical weapons in accordance with paragraph 36, until all Category 1 chemical weapons are destroyed. In addition, not later than at the end of each 90 days of the extension period, the State Party shall report to the Executive Council on its destruction activity. The Executive Council shall review progress towards completion of destruction and take the necessary measures to document this progress. All information concerning the destruction activities during the extension period shall be provided by the Executive Council to States Parties, upon request.

Detailed annual plans for destruction

29. The detailed annual plans for destruction shall be submitted to the Technical Secretariat not less than 60 days before each annual destruction period begins pursuant to Article IV, paragraph 7 (a), and shall specify:

(a) The quantity of each specific type of chemical weapon to be destroyed at each destruction facility and the inclusive dates when the destruction of each specific type of chemical weapon will be accomplished;

(b) The detailed site diagram for each chemical weapons destruction facility and any changes to previously submitted diagrams; and

(c) The detailed schedule of activities for each chemical weapons destruction facility for the upcoming year, identifying time required for design, construction or modification of the facility, installation of equipment, equipment check-out and operator training, destruction operations for each specific type of chemical weapon, and scheduled periods of inactivity.

30. A State Party shall provide, for each of its chemical weapons destruction facilities, detailed facility information to assist the Technical Secretariat in developing preliminary inspection procedures for use at the facility.

31. The detailed facility information for each destruction facility shall include the following information:

(a) Name, address and location;

(b) Detailed, annotated facility drawings;

(c) Facility design drawings, process drawings, and piping and instrumentation design drawings;

(d) Detailed technical descriptions, including design drawings and instrument specifications, for the equipment required for: removing the chemical fill from the munitions, devices, and containers; temporarily storing the drained chemical fill; destroying the chemical agent; and destroying the munitions, devices, and containers;

(e) Detailed technical descriptions of the destruction process, including material flow rates, temperatures and pressures, and designed destruction efficiency;

(f) Design capacity for each specific type of chemical weapon;

(g) A detailed description of the products of destruction and the method of their ultimate disposal;

(h) A detailed technical description of measures to facilitate inspections in accordance with this Convention;

(i) A detailed description of any temporary holding area at the destruction facility that will be used to provide chemical weapons directly to the destruction facility, including site and facility drawings and information on the storage capacity for each specific type of chemical weapon to be destroyed at the facility;

(j) A detailed description of the safety and medical measures in force at the facility;

(k) A detailed description of the living quarters and working premises for the inspectors; and

(l) Suggested measures for international verification.

32. A State Party shall provide, for each of its chemical weapons destruction facilities, the plant operations manuals, the safety and medical plans, the laboratory operations and quality assurance and control manuals, and the environmental permits that have been obtained, except that this shall not include material previously provided.

33. A State Party shall promptly notify the Technical Secretariat of any developments that could affect inspection activities at its destruction facilities.

34. Deadlines for submission of the information specified in paragraphs 30 to 32 shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

35. After a review of the detailed facility information for each destruction facility, the Technical Secretariat, if the need arises, shall enter into consultation with the State Party concerned in order to ensure that its chemical weapons destruction facilities are designed to assure the destruction of chemical weapons, to allow advanced planning on how verification measures may be applied and to ensure that the application of verification measures is consistent with proper facility operation, and that the facility operation allows appropriate verification.

Annual reports on destruction

36. Information regarding the implementation of plans for destruction of chemical weapons shall be submitted to the Technical Secretariat pursuant to Article IV, paragraph 7 (b), not later than 60 days after the end of each annual destruction period and shall specify the actual amounts of chemical weapons which were destroyed during the previous year at each destruction facility. If appropriate, reasons for not meeting destruction goals should be stated.

D. Verification

Verification of declarations of chemical weapons through on-site inspection

37. The purpose of the verification of declarations of chemical weapons shall be to confirm through on-site inspection the accuracy of the relevant declarations made pursuant to Article III.

38. The inspectors shall conduct this verification promptly after a declaration is submitted. They shall, inter alia, verify the quantity and identity of chemicals, types and number of munitions, devices and other equipment.

39. The inspectors shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons at each storage facility.

40. As the inventory progresses, inspectors shall install such agreed seals as may be necessary to clearly indicate if any stocks are removed, and to ensure the securing of the storage facility during the inventory. After completion of the inventory, such seals will be removed unless otherwise agreed.

Systematic verification of storage facilities

41. The purpose of the systematic verification of storage facilities shall be to ensure that no undetected removal of chemical weapons from such facilities takes place.

42. The systematic verification shall be initiated as soon as possible after the declaration of chemical weapons is submitted and shall continue until all chemical weapons have been removed from the storage facility. It shall in accordance with the facility agree-

ment, combine on-site inspection and monitoring with on-site instruments.

43. When all chemical weapons have been removed from the storage facility, the Technical Secretariat shall confirm the declaration of the State Party to that effect. After this confirmation, the Technical Secretariat shall terminate the systematic verification of the storage facility and shall promptly remove any monitoring instruments installed by the inspectors.

Inspections and visits

44. The particular storage facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected. The guidelines for determining the frequency of systematic on-site inspections shall be elaborated by the Technical Secretariat, taking into account the recommendations to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

45. The Technical Secretariat shall notify the inspected State Party of its decision to inspect or visit the storage facility 48 hours before the planned arrival of the inspection team at the facility for systematic inspections or visits. In cases of inspections or visits to resolve urgent problems, this period may be shortened. The Technical Secretariat shall specify the purpose of the inspection or visit.

46. The inspected State Party shall make any necessary preparations for the arrival of the inspectors and shall ensure their expeditious transportation from their point of entry to the storage facility. The facility agreement will specify administrative arrangements for inspectors.

47. The inspected State Party shall provide the inspection team upon its arrival at the chemical weapons storage facility to carry out an inspection, with the following data on the facility:

(a) The number of storage buildings and storage locations;

(b) For each storage building and storage location, the type and the identification number or designation, shown on the site diagram; and

(c) For each storage building and storage location at the facility, the number of items of each specific type of chemical weapon, and, for containers that are not part of binary munitions, the actual quantity of chemical fill in each container.

48. In carrying out an inventory, within the time available, inspectors shall have the right:

(a) To use any of the following inspection techniques:

(i) inventory all the chemical weapons stored at the facility;

(ii) inventory all the chemical weapons stored in specific buildings or locations at the facility, as chosen by the inspectors; or

(iii) inventory all the chemical weapons of one or more specific types stored at the facility, as chosen by the inspectors; and

(b) To check all items inventoried against agreed records.

49. Inspectors shall, in accordance with facility agreements:

(a) Have unimpeded access to all parts of the storage facilities including any munitions, devices, bulk containers, or other

containers therein. While conducting their activity, inspectors shall comply with the safety regulations at the facility. The items to be inspected will be chosen by the inspectors; and

(b) Have the right, during the first and any subsequent inspection of each chemical weapons storage facility, to designate munitions, devices, and containers from which samples are to be taken, and to affix to such munitions, devices, and containers a unique tag that will indicate an attempt to remove or alter the tag. A sample shall be taken from a tagged item at a chemical weapons storage facility or a chemical weapons destruction facility as soon as it is practically possible in accordance with the corresponding destruction programmes, and, in any case, not later than by the end of the destruction operations.

Systematic verification of the destruction of chemical weapons

50. The purpose of verification of destruction of chemical weapons shall be:

(a) To confirm the identity and quantity of the chemical weapons stocks to be destroyed; and

(b) To confirm that these stocks have been destroyed.

51. Chemical weapons destruction operations during the first 390 days after the entry into force of this Convention shall be governed by transitional verification arrangements. Such arrangements, including a transitional facility agreement, provisions for verification through on-site inspection and monitoring with on-site instruments, and the time-frame for application of the arrangements, shall be agreed between the Organization and the inspected State Party. These arrangements shall be approved by the Executive Council not later than 60 days after this Convention enters into force for the State Party, taking into account the recommendations of the Technical Secretariat, which shall be based on an evaluation of the detailed facility information provided in accordance with paragraph 31 and a visit to the facility. The Executive Council shall, at its first session, establish the guidelines for such transitional verification arrangements, based on recommendations to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i). The transitional verification arrangements shall be designed to verify, throughout the entire transitional period, the destruction of chemical weapons in accordance with the purposes set forth in paragraph 50, and to avoid hampering ongoing destruction operations.

52. The provisions of paragraphs 53 to 61 shall apply to chemical weapons destruction operations that are to begin not earlier than 390 days after the entry into force of this Convention.

53. On the basis of this Convention and the detailed destruction facility information, and as the case may be, on experience from previous inspections, the Technical Secretariat shall prepare a draft plan for inspecting the destruction of chemical weapons at each destruction facility. The plan shall be completed and provided to the inspected State Party for comment not less than 270 days before the facility begins destruction operations pursuant to this Convention. Any differences between the Technical Secretariat and the inspected State Party should be resolved through consultations.

Any unresolved matter shall be forwarded to the Executive Council for appropriate action with a view to facilitating the full implementation of this Convention.

54. The Technical Secretariat shall conduct an initial visit to each chemical weapons destruction facility of the inspected State Party not less than 240 days before each facility begins destruction operations pursuant to this Convention, to allow it to familiarize itself with the facility and assess the adequacy of the inspection plan.

55. In the case of an existing facility where chemical weapons destruction operations have already been initiated, the inspected State Party shall not be required to decontaminate the facility before the Technical Secretariat conducts an initial visit. The duration of the visit shall not exceed five days and the number of visiting personnel shall not exceed 15.

56. The agreed detailed plans for verification, with an appropriate recommendation by the Technical Secretariat, shall be forwarded to the Executive Council for review. The Executive Council shall review the plans with a view to approving them, consistent with verification objectives and obligations under this Convention. It should also confirm that verification schemes for destruction are consistent with verification aims and are efficient and practical. This review should be completed not less than 180 days before the destruction period begins.

57. Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the plan for verification. If there are no objections by any member of the Executive Council, the plan shall be put into action.

58. If there are any difficulties, the Executive Council shall enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved they shall be referred to the Conference.

59. The detailed facility agreements for chemical weapons destruction facilities shall specify, taking into account the specific characteristics of the destruction facility and its mode of operation:

(a) Detailed on-site inspection procedures; and

(b) Provisions for verification through continuous monitoring with on-site instruments and physical presence of inspectors.

60. Inspectors shall be granted access to each chemical weapons destruction facility not less than 60 days before the commencement of the destruction, pursuant to this Convention, at the facility. Such access shall be for the purpose of supervising the installation of the inspection equipment, inspecting this equipment and testing its operation, as well as for the purpose of carrying out a final engineering review of the facility. In the case of an existing facility where chemical weapons destruction operations have already been initiated, destruction operations shall be stopped for the minimum amount of time required, not to exceed 60 days, for installation and testing of the inspection equipment. Depending on the results of the testing and review, the State Party and the Technical Secretariat may agree on additions or changes to the detailed facility agreement for the facility.

61. The inspected State Party shall notify, in writing, the inspection team leader at a chemical weapons destruction facility not less

than four hours before the departure of each shipment of chemical weapons from a chemical weapons storage facility to that destruction facility. This notification shall specify the name of the storage facility, the estimated times of departure and arrival, the specific types and quantities of chemical weapons being transported, whether any tagged items are being moved, and the method of transportation. This notification may include notification of more than one shipment. The inspection team leader shall be promptly notified, in writing, of any changes in this information.

Chemical weapons storage facilities at chemical weapons destruction facilities

62. The inspectors shall verify the arrival of the chemical weapons at the destruction facility and the storing of these chemical weapons. The inspectors shall verify the inventory of each shipment, using agreed procedures consistent with facility safety regulations, prior to the destruction of the chemical weapons. They shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the chemical weapons prior to destruction.

63. As soon and as long as chemical weapons are stored at chemical weapons storage facilities located at chemical weapons destruction facilities, these storage facilities shall be subject to systematic verification in conformity with the relevant facility agreements.

64. At the end of an active destruction phase, inspectors shall make an inventory of the chemical weapons, that have been removed from the storage facility, to be destroyed. They shall verify the accuracy of the inventory of the chemical weapons remaining, employing inventory control procedures as referred to in paragraph 62.

Systematic on-site verification measures at chemical weapons destruction facilities

65. The inspectors shall be granted access to conduct their activities at the chemical weapons destruction facilities and the chemical weapons storage facilities located at such facilities during the entire active phase of destruction.

66. At each chemical weapons destruction facility, to provide assurance that no chemical weapons are diverted and that the destruction process has been completed, inspectors shall have the right to verify through their physical presence and monitoring with on-site instruments:

(a) The receipt of chemical weapons at the facility;

(b) The temporary holding area for chemical weapons and the specific type and quantity of chemical weapons stored in that area;

(c) The specific type and quantity of chemical weapons being destroyed;

(d) The process of destruction;

(e) The end-product of destruction;

(f) The mutilation of metal parts; and

(g) The integrity of the destruction process and of the facility as a whole.

67. Inspectors shall have the right to tag, for sampling, munitions, devices, or containers located in the temporary holding areas at the chemical weapons destruction facilities.

68. To the extent that it meets inspection requirements, information from routine facility operations, with appropriate data authentication, shall be used for inspection purposes.

69. After the completion of each period of destruction, the Technical Secretariat shall confirm the declaration of the State Party, reporting the completion of destruction of the designated quantity of chemical weapons.

70. Inspectors shall, in accordance with facility agreements:

(a) Have unimpeded access to all parts of the chemical weapons destruction facilities and the chemical weapons storage facilities located at such facilities, including any munitions, devices, bulk containers, or other containers, therein. The items to be inspected shall be chosen by the inspectors in accordance with the verification plan that has been agreed to by the inspected State Party and approved by the Executive Council;

(b) Monitor the systematic on-site analysis of samples during the destruction process; and

(c) Receive, if necessary, samples taken at their request from any devices, bulk containers and other containers at the destruction facility or the storage facility thereat.

PART IV (B)

OLD CHEMICAL WEAPONS AND ABANDONED CHEMICAL WEAPONS

A. General

1. Old chemical weapons shall be destroyed as provided for in Section B.

2. Abandoned chemical weapons, including those which also meet the definition of Article II, paragraph 5 (b), shall be destroyed as provided for in Section C.

B. Regime for old chemical weapons

3. A State Party which has on its territory old chemical weapons as defined in Article II, paragraph 5 (a), shall, not later than 30 days after this Convention enters into force for it, submit to the Technical Secretariat all available relevant information, including, to the extent possible, the location, type, quantity and the present condition of these old chemical weapons.

In the case of old chemical weapons as defined in Article II, paragraph 5 (b), the State Party shall submit to the Technical Secretariat a declaration pursuant to Article III, paragraph 1 (b) (i), including, to the extent possible, the information specified in Part IV (A), paragraphs 1 to 3, of this Annex.

4. A State Party which discovers old chemical weapons after this Convention enters into force for it shall submit to the Technical Secretariat the information specified in paragraph 3 not later than 180 days after the discovery of the old chemical weapons.

5. The Technical Secretariat shall conduct an initial inspection, and any further inspections as may be necessary, in order to verify the information submitted pursuant to paragraphs 3 and 4 and in particular to determine whether the chemical weapons meet the

definition of old chemical weapons as specified in Article II, paragraph 5. Guidelines to determine the usability of chemical weapons produced between 1925 and 1946 shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

6. A State Party shall treat old chemical weapons that have been confirmed by the Technical Secretariat as meeting the definition in Article II, paragraph 5 (a), as toxic waste. It shall inform the Technical Secretariat of the steps being taken to destroy or otherwise dispose of such old chemical weapons as toxic waste in accordance with its national legislation.

7. Subject to paragraphs 3 to 5, a State Party shall destroy old chemical weapons that have been confirmed by the Technical Secretariat as meeting the definition in Article II, paragraph 5 (b), in accordance with Article IV and Part IV (A) of this Annex. Upon request of a State Party, the Executive Council may, however, modify the provisions on time-limit and order of destruction of these old chemical weapons, if it determines that doing so would not pose a risk to the object and purpose of this Convention. The request shall contain specific proposals for modification of the provisions and a detailed explanation of the reasons for the proposed modification.

C. Regime for abandoned chemical weapons

8. A State Party on whose territory there are abandoned chemical weapons (hereinafter referred to as the "Territorial State Party") shall, not later than 30 days after this Convention enters into force for it, submit to the Technical Secretariat all available relevant information concerning the abandoned chemical weapons. This information shall include, to the extent possible, the location, type, quantity and the present condition of the abandoned chemical weapons as well as information on the abandonment.

9. A State Party which discovers abandoned chemical weapons after this Convention enters into force for it shall, not later than 180 days after the discovery, submit to the Technical Secretariat all available relevant information concerning the discovered abandoned chemical weapons. This information shall include, to the extent possible, the location, type, quantity and the present condition of the abandoned chemical weapons as well as information on the abandonment.

10. A State Party which has abandoned chemical weapons on the territory of another State Party (hereinafter referred to as the "Abandoning State Party") shall, not later than 30 days after this Convention enters into force for it, submit to the Technical Secretariat all available relevant information concerning the abandoned chemical weapons. This information shall include, to the extent possible, the location, type, quantity as well as information on the abandonment, and the condition of the abandoned chemical weapons.

11. The Technical Secretariat shall conduct an initial inspection, and any further inspections as may be necessary, in order to verify all available relevant information submitted pursuant to paragraphs 8 to 10 and determine whether systematic verification in accordance with Part IV (A), paragraphs 41 to 43, of this Annex is required. It shall, if necessary, verify the origin of the abandoned

chemical weapons and establish evidence concerning the abandonment and the identity of the Abandoning State.

12. The report of the Technical Secretariat shall be submitted to the Executive Council, the Territorial State Party, and to the Abandoning State Party or the State Party declared by the Territorial State Party or identified by the Technical Secretariat as having abandoned the chemical weapons. If one of the States Parties directly concerned is not satisfied with the report it shall have the right to settle the matter in accordance with provisions of this Convention or bring the issue to the Executive Council with a view to settling the matter expeditiously.

13. Pursuant to Article I, paragraph 3, the Territorial State Party shall have the right to request the State Party which has been established as the Abandoning State Party pursuant to paragraphs 8 to 12 to enter into consultations for the purpose of destroying the abandoned chemical weapons in cooperation with the Territorial State Party. It shall immediately inform the Technical Secretariat of this request.

14. Consultations between the Territorial State Party and the Abandoning State Party with a view to establishing a mutually agreed plan for destruction shall begin not later than 30 days after the Technical Secretariat has been informed of the request referred to in paragraph 13. The mutually agreed plan for destruction shall be transmitted to the Technical Secretariat not later than 180 days after the Technical Secretariat has been informed of the request referred to in paragraph 13. Upon the request of the Abandoning State Party and the Territorial State Party, the Executive Council may extend the time-limit for transmission of the mutually agreed plan for destruction.

15. For the purpose of destroying abandoned chemical weapons, the Abandoning State Party shall provide all necessary financial, technical, expert, facility as well as other resources. The Territorial State Party shall provide appropriate cooperation.

16. If the Abandoning State cannot be identified or is not a State Party, the Territorial State Party, in order to ensure the destruction of these abandoned chemical weapons, may request the Organization and other States Parties to provide assistance in the destruction of these abandoned chemical weapons.

17. Subject to paragraphs 8 to 16, Article IV and Part IV (A) of this Annex shall also apply to the destruction of abandoned chemical weapons. In the case of abandoned chemical weapons which also meet the definition of old chemical weapons in Article II, paragraph 5 (b), the Executive Council, upon the request of the Territorial State Party, individually or together with the Abandoning State Party, may modify or in exceptional cases suspend the application of provisions on destruction, if it determines that doing so would not pose a risk to the object and purpose of this Convention. In the case of abandoned chemical weapons which do not meet the definition of old chemical weapons in Article II, paragraph 5 (b), the Executive Council, upon the request of the Territorial State Party, individually or together with the Abandoning State Party, may in exceptional circumstances modify the provisions on the time-limit and the order of destruction, if it determines that doing so would not pose a risk to the object and purpose of this Conven-

tion. Any request as referred to in this paragraph shall contain specific proposals for modification of the provisions and a detailed explanation of the reasons for the proposed modification.

18. States Parties may conclude between themselves agreements or arrangements concerning the destruction of abandoned chemical weapons. The Executive Council may, upon request of the Territorial State Party, individually or together with the Abandoning State Party, decide that selected provisions of such agreements or arrangements take precedence over provisions of this Section, if it determines that the agreement or arrangement ensures the destruction of the abandoned chemical weapons in accordance with paragraph 17.

PART V

DESTRUCTION OF CHEMICAL WEAPONS PRODUCTION FACILITIES AND ITS VERIFICATION PURSUANT TO ARTICLE V

A. Declarations

Declarations of chemical weapons production facilities

1. The declaration of chemical weapons production facilities by a State Party pursuant to Article III, paragraph 1 (c) (ii), shall contain for each facility:

(a) The name of the facility, the names of the owners, and the names of the companies or enterprises operating the facility since 1 January 1946;

(b) The precise location of the facility, including the address, location of the complex, location of the facility within the complex including the specific building and structure number, if any;

(c) A statement whether it is a facility for the manufacture of chemicals that are defined as chemical weapons or whether it is a facility for the filling of chemical weapons, or both;

(d) The date when the construction of the facility was completed and the periods during which any modifications to the facility were made, including the installation of new or modified equipment, that significantly changed the production process characteristics of the facility;

(e) Information on the chemicals defined as chemical weapons that were manufactured at the facility; the munitions, devices, and containers that were filled at the facility; and the dates of the beginning and cessation of such manufacture or filling:

(i) For chemicals defined as chemical weapons that were manufactured at the facility, such information shall be expressed in terms of the specific types of chemicals manufactured, indicating the chemical name in accordance with the current International Union of Pure and Applied Chemistry (IUPAC) nomenclature, structural formula, and the Chemical Abstracts Service registry number, if assigned, and in terms of the amount of each chemical expressed by weight of chemical in tonnes;

(ii) For munitions, devices and containers that were filled at the facility, such information shall be expressed in

terms of the specific type of chemical weapons filled and the weight of the chemical fill per unit;

(f) The production capacity of the chemical weapons production facility:

(i) For a facility where chemical weapons were manufactured, production capacity shall be expressed in terms of the annual quantitative potential for manufacturing a specific substance on the basis of the technological process actually used or, in the case of processes not actually used, planned to be used at the facility;

(ii) For a facility where chemical weapons were filled, production capacity shall be expressed in terms of the quantity of chemical that the facility can fill into each specific type of chemical weapon a year;

(g) For each chemical weapons production facility that has not been destroyed, a description of the facility, including:

(i) A site diagram;

(ii) A process flow diagram of the facility; and

(iii) An inventory of buildings at the facility, and specialized equipment at the facility and of any spare parts for such equipment;

(h) The present status of the facility, stating:

(i) The date when chemical weapons were last produced at the facility;

(ii) Whether the facility has been destroyed, including the date and manner of its destruction; and

(iii) Whether the facility has been used or modified before entry into force of this Convention for an activity not related to the production of chemical weapons, and if so, information on what modifications have been made, the date such non-chemical weapons related activity began and the nature of such activity, indicating, if applicable, the kind of product;

(i) A specification of the measures that have been taken by the State Party for closure of, and a description of the measures that have been or will be taken by the State Party to inactivate the facility;

(j) A description of the normal pattern of activity for safety and security at the inactivated facility; and

(k) A statement as to whether the facility will be converted for the destruction of chemical weapons and, if so, the dates for such conversions.

Declarations of chemical weapons production facilities pursuant to Article III, paragraph 1 (c) (iii)

2. The declaration of chemical weapons production facilities pursuant to Article III, paragraph 1 (c) (iii), shall contain all information specified in paragraph 1 above. It is the responsibility of the State Party on whose territory the facility is or has been located to make appropriate arrangements with the other State to ensure that the declarations are made. If the State Party on whose territory the facility is or has been located is not able to fulfil this obligation, it shall state the reasons therefor.

Declarations of past transfers and receipts

3. A State Party that has transferred or received chemical weapons production equipment since 1 January 1946 shall declare these transfers and receipts pursuant to Article III, paragraph 1 (c) (iv), and in accordance with paragraph 5 below. When not all the specified information is available for transfer and receipt of such equipment for the period between 1 January 1946 and 1 January 1970, the State Party shall declare whatever information is still available to it and provide an explanation as to why it cannot submit a full declaration.

4. Chemical weapons production equipment referred to in paragraph 3 means:

(a) Specialized equipment;

(b) Equipment for the production of equipment specifically designed for use directly in connection with chemical weapons employment; and

(c) Equipment designed or used exclusively for producing non-chemical parts for chemical munitions.

5. The declaration concerning transfer and receipt of chemical weapons production equipment shall specify:

(a) Who received/transferred the chemical weapons production equipment;

(b) The identity of such equipment;

(c) The date of transfer or receipt;

(d) Whether the equipment was destroyed, if known; and

(e) Current disposition, if known.

Submission of general plans for destruction

6. For each chemical weapons production facility, a State Party shall supply the following information:

(a) Envisaged time-frame for measures to be taken; and

(b) Methods of destruction.

7. For each chemical weapons production facility that a State Party intends to convert temporarily into a chemical weapons destruction facility, the State Party shall supply the following information:

(a) Envisaged time-frame for conversion into a destruction facility;

(b) Envisaged time-frame for utilizing the facility as a chemical weapons destruction facility;

(c) Description of the new facility;

(d) Method of destruction of special equipment;

(e) Time-frame for destruction of the converted facility after it has been utilized to destroy chemical weapons; and

(f) Method of destruction of the converted facility.

Submission of annual plans for destruction and annual reports on destruction

8. The State Party shall submit an annual plan for destruction not less than 90 days before the beginning of the coming destruction year. The annual plan shall specify:

(a) Capacity to be destroyed;

(b) Name and location of the facilities where destruction will take place;

(c) List of buildings and equipment that will be destroyed at each facility; and

(d) Planned method(s) of destruction.

9. A State Party shall submit an annual report on destruction not later than 90 days after the end of the previous destruction year. The annual report shall specify:

(a) Capacity destroyed;

(b) Name and location of each facility where destruction took place;

(c) List of buildings and equipment that were destroyed at each facility;

(d) Methods of destruction.

10. For a chemical weapons production facility declared pursuant to Article III, paragraph 1 (c) (iii), it is the responsibility of the State Party on whose territory the facility is or has been located to make appropriate arrangements to ensure that the declarations specified in paragraphs 6 to 9 above are made. If the State Party on whose territory the facility is or has been located is not able to fulfil this obligation, it shall state the reasons therefor.

B. Destruction

General principles for destruction of chemical weapons production facilities

11. Each State Party shall decide on methods to be applied for the destruction of chemical weapons production facilities, according to the principles laid down in Article V and in this Part.

Principles and methods for closure of a chemical weapons production facility

12. The purpose of the closure of a chemical weapons production facility is to render it inactive.

13. Agreed measures for closure shall be taken by a State Party with due regard to the specific characteristics of each facility. Such measures shall include, *inter alia:*

(a) Prohibition of occupation of the specialized buildings and standard buildings of the facility except for agreed activities;

(b) Disconnection of equipment directly related to the production of chemical weapons, including, *inter alia,* process control equipment and utilities;

(c) Decommissioning of protective installations and equipment used exclusively for the safety of operations of the chemical weapons production facility;

(d) Installation of blind flanges and other devices to prevent the addition of chemicals to, or the removal of chemicals from, any specialized process equipment for synthesis, separation or purification of chemicals defined as a chemical weapon, any storage tank, or any machine for filling chemical weapons, the heating, cooling, or supply of electrical or other forms of power to such equipment, storage tanks, or machines; and

(e) Interruption of rail, road and other access routes for heavy transport to the chemical weapons production facility except those required for agreed activities.

14. While the chemical weapons production facility remains closed, a State Party may continue safety and physical security activities at the facility.

Technical maintenance of chemical weapons production facilities prior to their destruction

15. A State Party may carry out standard maintenance activities at chemical weapons production facilities only for safety reasons, including visual inspection, preventive maintenance, and routine repairs.

16. All planned maintenance activities shall be specified in the general and detailed plans for destruction. Maintenance activities shall not include:

(a) Replacement of any process equipment;

(b) Modification of the characteristics of the chemical process equipment;

(c) Production of chemicals of any type.

17. All maintenance activities shall be subject to monitoring by the Technical Secretariat.

Principles and methods for temporary conversion of chemical weapons production facilities into chemical weapons destruction facilities

18. Measures pertaining to the temporary conversion of chemical weapons production facilities into chemical weapons destruction facilities shall ensure that the regime for the temporarily converted facilities is at least as stringent as the regime for chemical weapons production facilities that have not been converted.

19. Chemical weapons production facilities converted into chemical weapons destruction facilities before entry into force of this Convention shall be declared under the category of chemical weapons production facilities.

They shall be subject to an initial visit by inspectors, who shall confirm the correctness of the information about these facilities. Verification that the conversion of these facilities was performed in such a manner as to render them inoperable as chemical weapons production facilities shall also be required, and shall fall within the framework of measures provided for the facilities that are to be rendered inoperable not later than 90 days after entry into force of this Convention.

20. A State Party that intends to carry out a conversion of chemical weapons production facilities shall submit to the Technical Secretariat, not later than 30 days after this Convention enters into force for it, or not later than 30 days after a decision has been taken for temporary conversion, a general facility conversion plan, and subsequently shall submit annual plans.

21. Should a State Party have the need to convert to a chemical weapons destruction facility an additional chemical weapons production facility that had been closed after this Convention entered into force for it, it shall inform the Technical Secretariat thereof not less than 150 days before conversion. The Technical Secretariat, in conjunction with the State Party, shall make sure that the necessary measures are taken to render that facility, after its conversion, inoperable as a chemical weapons production facility.

22. A facility converted for the destruction of chemical weapons shall not be more fit for resuming chemical weapons production than a chemical weapons production facility which has been closed and is under maintenance. Its reactivation shall require no less time than that required for a chemical weapons production facility that has been closed and is under maintenance.

23. Converted chemical weapons production facilities shall be destroyed not later than 10 years after entry into force of this Convention.

24. Any measures for the conversion of any given chemical weapons production facility shall be facility-specific and shall depend upon its individual characteristics.

25. The set of measures carried out for the purpose of converting a chemical weapons production facility into a chemical weapons destruction facility shall not be less than that which is provided for the disabling of other chemical weapons production facilities to be carried out not later than 90 days after this Convention enters into force for the State Party.

Principles and methods related to destruction of a chemical weapons production facility

26. A State Party shall destroy equipment and buildings covered by the definition of a chemical weapons production facility as follows:

(a) All specialized equipment and standard equipment shall be physically destroyed;

(b) All specialized buildings and standard buildings shall be physically destroyed.

27. A State Party shall destroy facilities for producing unfilled chemical munitions and equipment for chemical weapons employment as follows:

(a) Facilities used exclusively for production of non-chemical parts for chemical munitions or equipment specifically designed for use directly in connection with chemical weapons employment, shall be declared and destroyed. The destruction process and its verification shall be conducted according to the provisions of Article V and this Part of this Annex that govern destruction of chemical weapons production facilities;

(b) All equipment designed or used exclusively for producing non-chemical parts for chemical munitions shall be physically destroyed. Such equipment, which includes specially designed molds and metal-forming dies, may be brought to a special location for destruction;

(c) All buildings and standard equipment used for such production activities shall be destroyed or converted for purposes not prohibited under this Convention, with confirmation, as necessary, through consultations and inspections as provided for under Article IX;

(d) Activities for purposes not prohibited under this Convention may continue while destruction or conversion proceeds.

Order of destruction

28. The order of destruction of chemical weapons production facilities is based on the obligations specified in Article I and the

other Articles of this Convention, including obligations regarding systematic on-site verification. It takes into account interests of States Parties for undiminished security during the destruction period; confidence-building in the early part of the destruction stage; gradual acquisition of experience in the course of destroying chemical weapons production facilities; and applicability irrespective of the actual characteristics of the facilities and the methods chosen for their destruction. The order of destruction is based on the principle of levelling out.

29. A State Party shall, for each destruction period, determine which chemical weapons production facilities are to be destroyed and carry out the destruction in such a way that not more than what is specified in paragraphs 30 and 31 remains at the end of each destruction period. A State Party is not precluded from destroying its facilities at a faster pace.

30. The following provisions shall apply to chemical weapons production facilities that produce Schedule 1 chemicals:

(a) A State Party shall start the destruction of such facilities not later than one year after this Convention enters into force for it, and shall complete it not later than 10 years after entry into force of this Convention. For a State which is a Party at the entry into force of this Convention, this overall period shall be divided into three separate destruction periods, namely, years 2–5, years 6–8, and years 9–10. For States which become a Party after entry into force of this Convention, the destruction periods shall be adapted, taking into account paragraphs 28 and 29;

(b) Production capacity shall be used as the comparison factor for such facilities. It shall be expressed in agent tonnes, taking into account the rules specified for binary chemical weapons;

(c) Appropriate agreed levels of production capacity shall be established for the end of the eighth year after entry into force of this Convention. Production capacity that exceeds the relevant level shall be destroyed in equal increments during the first two destruction periods;

(d) A requirement to destroy a given amount of capacity shall entail a requirement to destroy any other chemical weapons production facility that supplied the Schedule 1 facility or filled the Schedule 1 chemical produced there into munitions or devices; and

(e) Chemical weapons production facilities that have been converted temporarily for destruction of chemical weapons shall continue to be subject to the obligation to destroy capacity according to the provisions of this paragraph.

31. A State Party shall start the destruction of chemical weapons production facilities not covered in paragraph 30 not later than one year after this Convention enters into force for it, and complete it not later than five years after entry into force of this Convention.

Detailed plans for destruction

32. Not less than 180 days before the destruction of a chemical weapons production facility starts, a State Party shall provide to the Technical Secretariat the detailed plans for destruction of the

facility, including proposed measures for verification of destruction referred to in paragraph 33 (f), with respect to, inter alia:

(a) Timing of the presence of the inspectors at the facility to be destroyed; and

(b) Procedures for verification of measures to be applied to each item on the declared inventory.

33. The detailed plans for destruction of each chemical weapons production facility shall contain:

(a) Detailed time schedule of the destruction process;

(b) Layout of the facility;

(c) Process flow diagram;

(d) Detailed inventory of equipment, buildings and other items to be destroyed;

(e) Measures to be applied to each item on the inventory;

(f) Proposed measures for verification;

(g) Security/safety measures to be observed during the destruction of the facility; and

(h) Working and living conditions to be provided for inspectors.

34. If a State Party intends to convert temporarily a chemical weapons production facility into a chemical weapons destruction facility, it shall notify the Technical Secretariat not less than 150 days before undertaking any conversion activities. The notification shall:

(a) Specify the name, address, and location of the facility;

(b) Provide a site diagram indicating all structures and areas that will be involved in the destruction of chemical weapons and also identify all structures of the chemical weapons production facility that are to be temporarily converted;

(c) Specify the types of chemical weapons, and the type and quantity of chemical fill to be destroyed;

(d) Specify the destruction method;

(e) Provide a process flow diagram, indicating which portions of the production process and specialized equipment will be converted for the destruction of chemical weapons;

(f) Specify the seals and inspection equipment potentially affected by the conversion, if applicable; and

(g) Provide a schedule identifying: The time allocated to design, temporary conversion of the facility, installation of equipment, equipment check-out, destruction operations, and closure.

35. In relation to the destruction of a facility that was temporarily converted for destruction of chemical weapons, information shall be provided in accordance with paragraphs 32 and 33.

Review of detailed plans

36. On the basis of the detailed plan for destruction and proposed measures for verification submitted by the State Party, and on experience from previous inspections, the Technical Secretariat shall prepare a plan for verifying the destruction of the facility, consulting closely with the State Party. Any differences between the Technical Secretariat and the State Party concerning appropriate measures should be resolved through consultations. Any unresolved matters shall be forwarded to the Executive Council for appropriate

action with a view to facilitating the full implementation of this Convention.

37. To ensure that the provisions of Article V and this Part are fulfilled, the combined plans for destruction and verification shall be agreed upon between the Executive Council and the State Party. This agreement should be completed, not less than 60 days before the planned initiation of destruction.

38. Each member of the Executive Council may consult with the Technical Secretariat on any issues regarding the adequacy of the combined plan for destruction and verification. If there are no objections by any member of the Executive Council, the plan shall be put into action.

39. If there are any difficulties, the Executive Council shall enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved they shall be referred to the Conference. The resolution of any differences over methods of destruction shall not delay the execution of other parts of the destruction plan that are acceptable.

40. If agreement is not reached with the Executive Council on aspects of verification, or if the approved verification plan cannot be put into action, verification of destruction shall proceed through continuous monitoring with on-site instruments and physical presence of inspectors.

41. Destruction and verification shall proceed according to the agreed plan. The verification shall not unduly interfere with the destruction process and shall be conducted through the presence of inspectors on-site to witness the destruction.

42. If required verification or destruction actions are not taken as planned, all States Parties shall be so informed.

C. Verification

Verification of declarations of chemical weapons production facilities through on-site inspection

43. The Technical Secretariat shall conduct an initial inspection of each chemical weapons production facility in the period between 90 and 120 days after this Convention enters into force for the State Party.

44. The purposes of the initial inspection shall be:

(a) To confirm that the production of chemical weapons has ceased and that the facility has been inactivated in accordance with this Convention;

(b) To permit the Technical Secretariat to familiarize itself with the measures that have been taken to cease production of chemical weapons at the facility;

(c) To permit the inspectors to install temporary seals;

(d) To permit the inspectors to confirm the inventory of buildings and specialized equipment;

(e) To obtain information necessary for planning inspection activities at the facility, including use of tamper-indicating seals and other agreed equipment, which shall be installed pursuant to the detailed facility agreement for the facility; and

(f) To conduct preliminary discussions regarding a detailed agreement on inspection procedures at the facility.

45. Inspectors shall employ, as appropriate, agreed seals, markers or other inventory control procedures to facilitate an accurate inventory of the declared items at each chemical weapons production facility.

46. Inspectors shall install such agreed devices as may be necessary to indicate if any resumption of production of chemical weapons occurs or if any declared item is removed. They shall take the necessary precaution not to hinder closure activities by the inspected State Party. Inspectors may return to maintain and verify the integrity of the devices.

47. If, on the basis of the initial inspection, the Director-General believes that additional measures are necessary to inactivate the facility in accordance with this Convention, the Director-General may request, not later than 135 days after this Convention enters into force; for a State Party, that such measures be implemented by the inspected State Party not later than 180 days after this Convention enters into force for it. At its discretion, the inspected State Party may satisfy the request. If it does not satisfy the request, the inspected State Party and the Director-General shall consult to resolve the matter.

Systematic verification of chemical weapons production facilities and cessation of their activities

48. The purpose of the systematic verification of a chemical weapons production facility shall be to ensure that any resumption of production of chemical weapons or removal of declared items will be detected at this facility.

49. The detailed facility agreement for each chemical weapons production facility shall specify:

(a) Detailed on-site inspection procedures, which may include:

(i) Visual examinations;

(ii) Checking and servicing of seals and other agreed devices; and

(iii) Obtaining and analyzing samples;

(b) Procedures for using tamper-indicating seals and other agreed equipment to prevent the undetected reactivation of the facility, which shall specify:

(i) The type, placement, and arrangements for installation; and

(ii) The maintenance of such seals and equipment; and

(c) Other agreed measures.

50. The seals or other approved equipment provided for in a detailed agreement on inspection measures for that facility shall be placed not later than 240 days after this Convention enters into force for a State Party. Inspectors shall be permitted to visit each chemical weapons production facility for the installation of such seals or equipment.

51. During each calendar year, the Technical Secretariat shall be permitted to conduct up to four inspections of each chemical weapons production facility.

52. The Director-General shall notify the inspected State Party of his decision to inspect or visit a chemical weapons production facility 48 hours before the planned arrival of the inspection team at

the facility for systematic inspections or visits. In the case of inspections or visits to resolve urgent problems, this period may be shortened. The Director-General shall specify the purpose of the inspection or visit.

53. Inspectors shall, in accordance with the facility agreements, have unimpeded access to all parts of the chemical weapons production facilities. The items on the declared inventory to be inspected shall be chosen by the inspectors.

54. The guidelines for determining the frequency of systematic on-site inspections shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i). The particular production facility to be inspected shall be chosen by the Technical Secretariat in such a way as to preclude the prediction of precisely when the facility is to be inspected.

Verification of destruction of chemical weapons production facilities

55. The purpose of systematic verification of the destruction of chemical weapons production facilities shall be to confirm that the facility is destroyed in accordance with the obligations under this Convention and that each item on the declared inventory is destroyed in accordance with the agreed detailed plan for destruction.

56. When all items on the declared inventory have been destroyed, the Technical Secretariat shall confirm the declaration of the State Party to that effect. After this confirmation, the Technical Secretariat shall terminate the systematic verification of the chemical weapons production facility and shall promptly remove all devices and monitoring instruments installed by the inspectors.

57. After this confirmation, the State Party shall make the declaration that the facility has been destroyed.

Verification of temporary conversion of a chemical weapons production facility into a chemical weapons destruction facility

58. Not later than 90 days after receiving the initial notification of the intent to convert temporarily a production facility, the inspectors shall have the right to visit the facility to familiarize themselves with the proposed temporary conversion and to study possible inspection measures that will be required during the conversion.

59. Not later than 60 days after such a visit, the Technical Secretariat and the inspected State Party shall conclude a transition agreement containing additional inspection measures for the temporary conversion period. The transition agreement shall specify inspection procedures, including the use of seals, monitoring equipment, and inspections, that will provide confidence that no chemical weapons production takes place during the conversion process. This agreement shall remain in force from the beginning of the temporary conversion activity until the facility begins operation as a chemical weapons destruction facility.

60. The inspected State Party shall not remove or convert any portion of the facility, or remove or modify any seal or other agreed inspection equipment that may have been installed pursuant to this Convention until the transition agreement has been concluded.

61. Once the facility begins operation as a chemical weapons destruction facility, it shall be subject to the provisions of Part IV (A) of this Annex applicable to chemical weapons destruction facilities. Arrangements for the pre-operation period shall be governed by the transition agreement.

62. During destruction operations the inspectors shall have access to all portions of the temporarily converted chemical weapons production facilities, including those that are not directly involved with the destruction of chemical weapons.

63. Before the commencement of work at the facility to convert it temporarily for chemical weapons destruction purposes and after the facility has ceased to function as a facility for chemical weapons destruction, the facility shall be subject to the provisions of this Part applicable to chemical weapons production facilities.

D. Conversion of chemical weapons production facilities to purposes not prohibited under this convention

Procedures for requesting conversion

64. A request to use a chemical weapons production facility for purposes not prohibited under this Convention may be made for any facility that a State Party is already using for such purposes before this Convention enters into force for it, or that it plans to use for such purposes.

65. For a chemical weapons production facility that is being used for purposes not prohibited under this Convention when this Convention enters into force for the State Party, the request shall be submitted to the Director-General not later than 30 days after this Convention enters into force for the State Party. The request shall contain, in addition to data submitted in accordance with paragraph 1 (h) (iii), the following information:

(a) A detailed justification for the request;

(b) A general facility conversion plan that specifies:

(i) The nature of the activity to be conducted at the facility;

(ii) If the planned activity involves production, processing, or consumption of chemicals: the name of each of the chemicals, the flow diagram of the facility, and the quantities planned to be produced, processed, or consumed annually;

(iii) Which buildings or structures are proposed to be used and what modifications are proposed, if any;

(iv) Which buildings or structures have been destroyed or are proposed to be destroyed and the plans for destruction;

(v) What equipment is to be used in the facility;

(vi) What equipment has been removed and destroyed and what equipment is proposed to be removed and destroyed and the plans for its destruction;

(vii) The proposed schedule for conversion, if applicable; and

(viii) The nature of the activity of each other facility operating at the site; and

(c) A detailed explanation of how measures set forth in subparagraph (b), as well as any other measures proposed by the State Party, will ensure the prevention of standby chemical weapons production capability at the facility.

66. For a chemical weapons production facility that is not being used for purposes not prohibited under this Convention when this Convention enters into force for the State Party, the request shall be submitted to the Director-General not later than 30 days after the decision to convert, but in no case later than four years after this Convention enters into force for the State Party. The request shall contain the following information:

(a) A detailed justification for the request, including its economic needs;

(b) A general facility conversion plan that specifies:

(i) The nature of the activity planned to be conducted at the facility;

(ii) If the planned activity involves production, processing, or consumption of chemicals: the name of each of the chemicals, the flow diagram of the facility, and the quantities planned to be produced, processed, or consumed annually;

(iii) Which buildings or structures are proposed to be retained and what modifications are proposed, if any;

(iv) Which buildings or structures have been destroyed or are proposed to be destroyed and the plans for destruction;

(v) What equipment is proposed for use in the facility;

(vi) What equipment is proposed to be removed and destroyed and the plans for its destruction;

(vii) The proposed schedule for conversion; and

(viii) The nature of the activity of each other facility operating at the site; and

(c) A detailed explanation of how the measures set forth in subparagraph (b), as well as any other measures proposed by the State Party, will ensure the prevention of standby chemical weapons production capability at the facility.

67. The State Party may propose in its request any other measures it deems appropriate to build confidence.

Actions pending a decision

68. Pending a decision of the Conference, a State Party may continue to use for purposes not prohibited under this Convention a facility that was being used for such purposes before this Convention enters into force for it, but only if the State Party certifies in its request that no specialized equipment and no specialized buildings are being used and that the specialized equipment and specialized buildings have been rendered inactive using the methods specified in paragraph 13.

69. If the facility, for which the request was made, was not being used for purposes not prohibited under this Convention before this Convention enters into force for the State Party, or if the certification required in paragraph 68 is not made, the State Party shall cease immediately all activity pursuant to Article V, paragraph 4. The State Party shall close the facility in accordance with para-

graph 13 not later than 90 days after this Convention enters into force for it.

Conditions for conversion

70. As a condition for conversion of a chemical weapons production facility for purposes not prohibited under this Convention, all specialized equipment at the facility must be destroyed and all special features of buildings and structures that distinguish them from buildings and structures normally used for purposes not prohibited under this Convention and not involving Schedule 1 chemicals must be eliminated.

71. A converted facility shall not be used:

(a) For any activity involving production, processing, or consumption of a Schedule 1 chemical or a Schedule 2 chemical; or

(b) For the production of any highly toxic chemical, including any highly toxic organophosphorus chemical, or for any other activity that would require special equipment for handling highly toxic or highly corrosive chemicals, unless the Executive Council decides that such production or activity would pose no risk to the object and purpose of this Convention, taking into account criteria for toxicity, corrosiveness and, if applicable, other technical factors, to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

72. Conversion of a chemical weapons production facility shall be completed not later than six years after entry into force of this Convention.

Decisions by the Executive Council and the Conference

73. Not later than 90 days after receipt of the request by the Director-General, an initial inspection of the facility shall be conducted by the Technical Secretariat. The purpose of this inspection shall be to determine the accuracy of the information provided in the request, to obtain information on the technical characteristics of the proposed converted facility, and to assess the conditions under which use for purposes not prohibited under this Convention may be permitted. The Director-General shall promptly submit a report to the Executive Council, the Conference, and all States Parties containing his recommendations on the measures necessary to convert the facility to purposes not prohibited under this Convention and to provide assurance that the converted facility will be used only for purposes not prohibited under this Convention.

74. If the facility has been used for purposes not prohibited under this Convention before this Convention enters into force for the State Party, and is continuing to be in operation, but the measures required to be certified under paragraph 68 have not been taken, the Director-General shall immediately inform the Executive Council, which may require implementation of measures it deems appropriate, *inter alia,* shut-down of the facility and removal of specialized equipment and modification of buildings or structures. The Executive Council shall stipulate the deadline for implementation of these measures and shall suspend consideration of the request pending their satisfactory completion. The facility shall be inspected promptly after the expiration of the deadline to determine

whether the measures have been implemented. If not, the State Party shall be required to shut down completely all facility operations.

75. As soon as possible after receiving the report of the Director-General, the Conference, upon recommendation of the Executive Council, shall decide, taking into account the report and any views expressed by States Parties, whether to approve the request, and shall establish the conditions upon which approval is contingent. If any State Party objects to approval of the request and the associated conditions, consultations shall be undertaken among interested States Parties for up to 90 days to seek a mutually acceptable solution. A decision on the request and associated conditions, along with any proposed modifications thereto, shall be taken, as a matter of substance, as soon as possible after the end of the consultation period.

76. If the request is approved, a facility agreement shall be completed not later than 90 days after such a decision is taken. The facility agreement shall contain the conditions under which the conversion and use of the facility is permitted, including measures for verification. Conversion shall not begin before the facility agreement is concluded.

Detailed plans for conversion

77. Not less than 180 days before conversion of a chemical weapons production facility is planned to begin, the State Party shall provide the Technical Secretariat with the detailed plans for conversion of the facility, including proposed measures for verification of conversion, with respect to, *inter alia*:

(a) Timing of the presence of the inspectors at the facility to be converted; and

(b) Procedures for verification of measures to be applied to each item on the declared inventory.

78. The detailed plan for conversion of each chemical weapons production facility shall contain:

(a) Detailed time schedule of the conversion process;

(b) Layout of the facility before and after conversion;

(c) Process flow diagram of the facility before, and as appropriate, after the conversion;

(d) Detailed inventory of equipment, buildings and structures and other items to be destroyed and of the buildings and structures to be modified;

(e) Measures to be applied to each item on the inventory, if any;

(f) Proposed measures for verification;

(g) Security/safety measures to be observed during the conversion of the facility; and

(h) Working and living conditions to be provided for inspectors.

Review of detailed plans

79. On the basis of the detailed plan for conversion and proposed measures for verification submitted by the State Party, and on experience from previous inspections, the Technical Secretariat shall prepare a plan for verifying the conversion of the facility, consult-

ing closely with the State Party. Any differences between the Technical Secretariat and the State Party concerning appropriate measures shall be resolved through consultations. Any unresolved matters shall be forwarded to the Executive Council for appropriate action with a view to facilitate the full implementation of this Convention.

80. To ensure that the provisions of Article V and this Part are fulfilled, the combined plans for conversion and verification shall be agreed upon between the Executive Council and the State Party. This agreement shall be completed not less than 60 days before conversion is planned to begin.

81. Each member of the Executive Council may consult with the Technical Secretariat on any issue regarding the adequacy of the combined plan for conversion and verification. If there are no objections by any member of the Executive Council, the plan shall be put into action.

82. If there are any difficulties, the Executive Council should enter into consultations with the State Party to reconcile them. If any difficulties remain unresolved, they should be referred to the Conference. The resolution of any differences over methods of conversion should not delay the execution of other parts of the conversion plan that are acceptable.

83. If agreement is not reached with the Executive Council on aspects of verification, or if the approved verification plan cannot be put into action, verification of conversion shall proceed through continuous monitoring with on-site instruments and physical presence of inspectors.

84. Conversion and verification shall proceed according to the agreed plan. The verification shall not unduly interfere with the conversion process and shall be conducted through the presence of inspectors to confirm the conversion.

85. For the 10 years after the Director-General certifies that conversion is complete, the State Party shall provide to inspectors unimpeded access to the facility at any time. The inspectors shall have the right to observe all areas, all activities, and all items of equipment at the facility. The inspectors shall have the right to verify that the activities at the facility are consistent with any conditions established under this Section, by the Executive Council and the Conference. The inspectors shall also have the right, in accordance with provisions of Part II, Section E, of this Annex to receive samples from any area of the facility and to analyze them to verify the absence of Schedule 1 chemicals, their stable by-products and decomposition products and of Schedule 2 chemicals and to verify that the activities at the facility are consistent with any other conditions on chemical activities established under this Section, by the Executive Council and the Conference. The inspectors shall also have the right to managed access, in accordance with Part X, Section C, of this Annex, to the plant site at which the facility is located. During the 10-year period, the State Party shall report annually on the activities at the converted facility. Upon completion of the 10-year period, the Executive Council, taking into account recommendations of the Technical Secretariat, shall decide on the nature of continued verification measures.

86. Costs of verification of the converted facility shall be allocated in accordance with Article V, paragraph 19.

PART VI

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR SCHEDULE 1 CHEMICALS AND FACILITIES RELATED TO SUCH CHEMICALS

A. General Provisions

1. A State Party shall not produce, acquire, retain or use Schedule 1 chemicals outside the territories of States Parties and shall not transfer such chemicals outside its territory except to another State Party.

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

(a) The chemicals are applied to research, medical, pharmaceutical or protective purposes; and

(b) The types and quantities of chemicals are strictly limited to those which can be justified for such purposes; and

(c) The aggregate amount of such chemicals at any given time for such purposes is equal to or less than 1 tonne; and

(d) The aggregate amount for such purposes acquired by a State Party in any year through production, withdrawal from chemical weapons stocks and transfer is equal to or less than 1 tonne.

B. Transfers

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

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

5. Not less than 30 days before any transfer to another State Party both States Parties shall notify the Technical Secretariat of the transfer.

6. Each State Party shall make a detailed annual declaration regarding transfers during the previous year. The declaration shall be submitted not later than 90 days after the end of that year and shall for each Schedule 1 chemical that has been transferred include the following information:

(a) The chemical name, structural formula and Chemical Abstracts Service registry number, if assigned;

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

C. Production

General principles for production

7. Each State Party, during production under paragraphs 8 to 12, shall assign the highest priority to ensuring the safety of people

and to protecting the environment. Each State Party shall conduct such production in accordance with its national standards for safety and emissions.

Single small-scale facility

8. Each State Party that produces Schedule 1 chemicals for research, medical, pharmaceutical or protective purposes shall carry out the production at a single small-scale facility approved by the State Party, except as set forth in paragraphs 10, 11 and 12.

9. The production at a single small-scale facility shall be carried out in reaction vessels in production lines not configurated for continuous operation. The volume of such a reaction vessel shall not exceed 100 liters, and the total volume of all reaction vessels with a volume exceeding 5 liters shall not be more than 500 liters.

Other facilities

10. Production of Schedule 1 chemicals in aggregate quantities not exceeding 10 kg per year may be carried out for protective purposes at one facility outside a single small-scale facility. This facility shall be approved by the State Party.

11. Production of Schedule 1 chemicals in quantities of more than 100 g per year may be carried out for research, medical or pharmaceutical purposes outside a single small-scale facility in aggregate quantities not exceeding 10 kg per year per facility. These facilities shall be approved by the State Party.

12. Synthesis of Schedule 1 chemicals for research, medical or pharmaceutical purposes, but not for protective purposes, may be carried out at laboratories in aggregate quantities less than 100 g per year per facility. These facilities shall not be subject to any obligation relating to declaration and verification as specified in Sections D and E.

D. Declarations

Single small-scale facility

13. Each State Party that plans to operate a single small-scale facility shall provide the Technical Secretariat with the precise location and a detailed technical description of the facility, including an inventory of equipment and detailed diagrams. For existing facilities, this initial declaration shall be provided not later than 30 days after this Convention enters into force for the State Party. Initial declarations on new facilities shall be provided not less than 180 days before operations are to begin.

14. Each State Party shall give advance notification to the Technical Secretariat of planned changes related to the initial declaration. The notification shall be submitted not less than 180 days before the changes are to take place.

15. A State Party producing Schedule 1 chemicals at a single small-scale facility shall make a detailed annual declaration regarding the activities of the facility for the previous year. The declaration shall be submitted not later than 90 days after the end of that year and shall include:

(a) Identification of the facility;

(b) For each Schedule 1 chemical 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 precursors listed in Schedules 1, 2, or 3 used for production of Schedule 1 chemicals;

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

(v) The quantity received from or shipped to other facilities in 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; and

(vii) The quantity stored at the end of the year; and

(c) 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.

16. Each State Party producing Schedule 1 chemicals at a single small-scale facility shall make a detailed annual declaration regarding the projected activities and the anticipated production at the facility for the coming year. The declaration shall be submitted not less than 90 days before the beginning of that year and shall include:

(a) Identification of the facility;

(b) For each Schedule 1 chemical anticipated to be 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; and

(c) 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.

Other facilities referred to in paragraphs 10 and 11

17. For each facility, a State Party shall provide the Technical Secretariat with the name, location and a detailed technical description of the facility or its relevant part(s) as requested by the Technical Secretariat. The facility producing Schedule 1 chemicals for protective purposes shall be specifically identified. For existing facilities, this initial declaration shall be provided not later than 30 days after this Convention enters into force for the State Party. Initial declarations on new facilities shall be provided not less than 180 days before operations are to begin.

18. Each State Party shall give advance notification to the Technical Secretariat of planned changes related to the initial declaration. The notification shall be submitted not less than 180 days before the changes are to take place.

19. Each State Party shall, for each facility, make a detailed annual declaration regarding the activities of the facility for the pre-

vious year. The declaration shall be submitted not later than 90 days after the end of that year and shall include:

(a) Identification of the facility;

(b) For each Schedule 1 chemical the following information:

(i) The chemical name, structural formula and Chemical Abstracts Service registry number, if assigned;

(ii) The quantity produced and, in case of production for protective purposes, methods employed;

(iii) The name and quantity of precursors listed in Schedules 1, 2, or 3, used for production of Schedule 1 chemicals;

(iv) The quantity consumed at the facility and the purpose of the consumption;

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

(vi) The maximum quantity stored at any time during the year; and

(vii) The quantity stored at the end of the year; and

(c) Information on any changes at the facility or its relevant parts during the year compared to previously submitted detailed technical description of the facility.

20. Each State Party shall, for each facility, make a detailed annual declaration regarding the projected activities and the anticipated production at the facility for the coming year. The declaration shall be submitted not less than 90 days before the beginning of that year and shall include:

(a) Identification of the facility;

(b) For each Schedule 1 chemical the following information:

(i) The chemical name, structural formula and Chemical Abstracts Service registry number, if assigned; and

(ii) The quantity anticipated to be produced, the time periods when the production is anticipated to take place and the purposes of the production; and

(c) Information on any anticipated changes at the facility or its relevant parts, during the year compared to previously submitted detailed technical descriptions of the facility.

E. Verification

Single small-scale facility

21. The aim of verification activities at the single small-scale facility shall be to verify that the quantities of Schedule 1 chemicals produced are correctly declared and, in particular, that their aggregate amount does not exceed 1 tonne.

22. The facility shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments.

23. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the object and purpose of this Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out there. Appropriate guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

24. The purpose of the initial inspection shall be to verify information provided concerning the facility, including verification of the limits on reaction vessels set forth in paragraph 9.

25. Not later than 180 days after this Convention enters into force for a State Party, it shall conclude a facility agreement, based on a model agreement, with the Organization, covering detailed inspection procedures for the facility.

26. Each State Party planning to establish a single small-scale facility after this Convention enters into force for it shall conclude a facility agreement, based on a model agreement, with the Organization, covering detailed inspection procedures for the facility before it begins operation or is used.

27. A model for agreements shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

Other facilities referred to in paragraphs 10 and 11

28. The aim of verification activities at any facility referred to in paragraphs 10 and 11 shall be to verify that:

(a) The facility is not used to produce any Schedule 1 chemical, except for the declared chemicals;

(b) The quantities of Schedule 1 chemicals produced, processed or consumed are correctly declared and consistent with needs for the declared purpose; and

(c) The Schedule 1 chemical is not diverted or used for other purposes.

29. The facility shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments.

30. The number, intensity, duration, timing and mode of inspections for a particular facility shall be based on the risk to the object and purpose of this Convention posed by the quantities of chemicals produced, the characteristics of the facility and the nature of the activities carried out there. Appropriate guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

31. Not later than 180 days after this Convention enters into force for a State Party, it shall conclude facility agreements with the Organization, based on a model agreement covering detailed inspection procedures for each facility.

32. Each State Party planning to establish such a facility after entry into force of this Convention shall conclude a facility agreement with the Organization before the facility begins operation or is used.

PART VII

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR SCHEDULE 2 CHEMICALS AND FACILITIES RELATED TO SUCH CHEMICALS

A. Declarations

Declarations of aggregate national data

1. The initial and annual declarations to be provided by each State Party pursuant to Article VI, paragraphs 7 and 8, shall include aggregate national data for the previous calendar year on the quantities produced, processed, consumed, imported and exported of each Schedule 2 chemical, as well as a quantitative specification of import and export for each country involved.

2. Each State Party shall submit:

(a) Initial declarations pursuant to paragraph 1 not later than 30 days after this Convention enters into force for it; and, starting in the following calendar year,

(b) Annual declarations not later than 90 days after the end of the previous calendar year.

Declarations of plant sites producing, processing or consuming Schedule 2 chemicals

3. Initial and annual declarations are required for all plant sites that comprise one or more plant(s) which produced, processed or consumed during any of the previous three calendar years or is anticipated to produce, process or consume in the next calendar year more than:

(a) 1 kg of a chemical designated "*" in Schedule 2, part A;

(b) 100 kg of any other chemical listed in Schedule 2, part A; or

(c) 1 tonne of a chemical listed in Schedule 2, part B.

4. Each State Party shall submit:

(a) Initial declarations pursuant to paragraph 3 not later than 30 days after this Convention enters into force for it; and, starting in the following calendar year;

(b) Annual declarations on past activities not later than 90 days after the end of the previous calendar year;

(c) Annual declarations on anticipated activities not later than 60 days before the beginning of the following calendar year. Any such activity additionally planned after the annual declaration has been submitted shall be declared not later than five days before this activity begins.

5. Declarations pursuant to paragraph 3 are generally not required for mixtures containing a low concentration of a Schedule 2 chemical. They are only required, in accordance with guidelines, in cases where the ease of recovery from the mixture of the Schedule 2 chemical and its total weight are deemed to pose a risk to the object and purpose of this Convention. These guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

6. Declarations of a plant site pursuant to paragraph 3 shall include:

(a) The name of the plant site and the name of the owner, company, or enterprise operating it;

(b) Its precise location including the address; and

(c) The number of plants within the plant site which are declared pursuant to Part VIII of this Annex.

7. Declarations of a plant site pursuant to paragraph 3 shall also include, for each plant which is located within the plant site and which falls under the specifications set forth in paragraph 3, the following information:

(a) The name of the plant and the name of the owner, company, or enterprise operating it;

(b) Its precise location within the plant site including the specific building or structure number, if any;

(c) Its main activities;

(d) Whether the plant:

(i) Produces, processes, or consumes the declared Schedule 2 chemical(s);

(ii) Is dedicated to such activities or multi-purpose; and

(iii) Performs other activities with regard to the declared Schedule 2 chemical(s), including a specification of that other activity (e.g. storage); and

(e) The production capacity of the plant for each declared Schedule 2 chemical.

8. Declarations of a plant site pursuant to paragraph 3 shall also include the following information on each Schedule 2 chemical above the declaration threshold:

(a) The chemical name, common or trade name used by the facility, structural formula, and Chemical Abstracts Service registry number, if assigned;

(b) In the case of the initial declaration: the total amount produced, processed, consumed, imported and exported by the plant site in each of the three previous calendar years;

(c) In the case of the annual declaration on past activities: the total amount produced, processed, consumed, imported and exported by the plant site in the previous calendar year;

(d) In the case of the annual declaration on anticipated activities: the total amount anticipated to be produced, processed or consumed by the plant site in the following calendar year, including the anticipated time periods for production, processing or consumption; and

(e) The purposes for which the chemical was or will be produced, processed or consumed:

(i) Processing and consumption on site with a specification of the product types;

(ii) Sale or transfer within the territory or to any other place under the jurisdiction or control of the State Party, with a specification whether to other industry, trader or other destination and, if possible, of final product types;

(iii) Direct export, with a specification of the States involved; or

(iv) Other, including a specification of these other purposes.

Declarations on past production of Schedule 2 chemicals for chemical weapons purposes

9. Each State Party shall, not later than 30 days after this Convention enters into force for it, declare all plant sites comprising plants that produced at any time since 1 January 1946 a Schedule 2 chemical for chemical weapons purposes.

10. Declarations of a plant site pursuant to paragraph 9 shall include:

(a) The name of the plant site and the name of the owner, company, or enterprise operating it;

(b) Its precise location including the address;

(c) For each plant which is located within the plant site, and which falls under the specifications set forth in paragraph 9, the same information as required under paragraph 7, subparagraphs (a) to (e); and

(d) For each Schedule 2 chemical produced for chemical weapons purposes:

(i) The chemical name, common or trade name used by the plant site for chemical weapons production purposes, structural formula, and Chemical Abstracts Service registry number, if assigned;

(ii) The dates when the chemical was produced and the quantity produced; and

(iii) The location to which the chemical was delivered and the final product produced there, if known.

Information to States Parties

11. A list of plant sites declared under this Section together with the information provided under paragraphs 6, 7 (a), 7 (c), 7 (d) (i), 7 (d) (iii), 8 (a) and 10 shall be transmitted by the Technical Secretariat to States Parties upon request.

B. Verification

General

12. Verification provided for in Article VI, paragraph 4, shall be carried out through on-site inspection at those of the declared plant sites that comprise one or more plants which produced, processed or consumed during any of the previous three calendar years or are anticipated to produce, process or consume in the next calendar year more than:

(a) 10 kg of a chemical designated "*" in Schedule 2, part A;

(b) 1 tonne of any other chemical listed in Schedule 2, part A; or

(c) 10 tonnes of a chemical listed in Schedule 2, part B.

13. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a) shall contain, as a separate item, a programme and budget for verification under this Section. In the allocation of resources made available for verification under Article VI, the Technical Secretariat shall, during the first three years after the entry into force of this Convention, give priority to the initial inspections of plant sites declared under Section A. The allocation shall thereafter be reviewed on the basis of the experience gained.

14. The Technical Secretariat shall conduct initial inspections and subsequent inspections in accordance with paragraphs 15 to 22.

Inspection aims

15. The general aim of inspections shall be to verify that activities are in accordance with obligations under this Convention and consistent with the information to be provided in declarations. Particular aims of inspections at plant sites declared under Section A shall include verification of:

(a) The absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex;

(b) Consistency with declarations of levels of production, processing or consumption of Schedule 2 chemicals; and

(c) Non-diversion of Schedule 2 chemicals for activities prohibited under this Convention.

Initial inspections

16. Each plant site to be inspected pursuant to paragraph 12 shall receive an initial inspection as soon as possible but preferably not later than three years after entry into force of this Convention. Plant sites declared after this period shall receive an initial inspection not later than one year after production, processing or consumption is first declared. Selection of plant sites for initial inspections shall be made by the Technical Secretariat in such a way as to preclude the prediction of precisely when the plant site is to be inspected.

17. During the initial inspection, a draft facility agreement for the plant site shall be prepared unless the inspected State Party and the Technical Secretariat agree that it is not needed.

18. With regard to frequency and intensity of subsequent inspections, inspectors shall during the initial inspection assess the risk to the object and purpose of this Convention posed by the relevant chemicals, the characteristics of the plant site and the nature of the activities carried out there, taking into account, *inter alia,* the following criteria:

(a) The toxicity of the scheduled chemicals and of the end-products produced with it, if any;

(b) The quantity of the scheduled chemicals typically stored at the inspected site;

(c) The quantity of feedstock chemicals for the scheduled chemicals typically stored at the inspected site;

(d) The production capacity of the Schedule 2 plants; and

(e) The capability and convertibility for initiating production, storage and filling of toxic chemicals at the inspected site.

Inspections

19. Having received the initial inspection, each plant site to be inspected pursuant to paragraph 12 shall be subject to subsequent inspections.

20. In selecting particular plant sites for inspection and in deciding on the frequency and intensity of inspections, the Technical Secretariat shall give due consideration to the risk to the object and purpose of this Convention posed by the relevant chemical, the

characteristics of the plant site and the nature of the activities carried out there, taking into account the respective facility agreement as well as the results of the initial inspections and subsequent inspections.

21. The Technical Secretariat shall choose a particular plant site to be inspected in such a way as to preclude the prediction of exactly when it will be inspected.

22. No plant site shall receive more than two inspections per calendar year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

Inspection procedures

23. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 24 to 30 below shall apply.

24. A facility agreement for the declared plant site shall be concluded not later than 90 days after completion of the initial inspection between the inspected State Party and the Organization unless the inspected State Party and the Technical Secretariat agree that it is not needed. It shall be based on a model agreement and govern the conduct of inspections at the declared plant site. The agreement shall specify the frequency and intensity of inspections as well as detailed inspection procedures, consistent with paragraphs 25 to 29.

25. The focus of the inspection shall be the declared Schedule 2 plant(s) within the declared plant site. If the inspection team requests access to other parts of the plant site, access to these areas shall be granted in accordance with the obligation to provide clarification pursuant to Part II, paragraph 51, of this Annex and in accordance with the facility agreement, or, in the absence of a facility agreement, in accordance with the rules of managed access as specified in Part X, Section C, of this Annex.

26. Access to records shall be provided, as appropriate, to provide assurance that there has been no diversion of the declared chemical and that production has been consistent with declarations.

27. Sampling and analysis shall be undertaken to check for the absence of undeclared scheduled chemicals.

28. Areas to be inspected may include:

(a) Areas where feed chemicals (reactants) are delivered or stored;

(b) Areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessels;

(c) Feed lines as appropriate from the areas referred to in subparagraph (a) or subparagraph (b) to the reaction vessels together with any associated valves, flow meters, etc.;

(d) The external aspect of the reaction vessels and ancillary equipment;

(e) Lines from the reaction vessels leading to long- or short-term storage or to equipment further processing the declared Schedule 2 chemicals;

(f) Control equipment associated with any of the items under subparagraphs (a) to (e);

(g) Equipment and areas for waste and effluent handling;

(h) Equipment and areas for disposition of chemicals not up to specification.

29. The period of inspection shall not last more than 96 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of inspection

30. A State Party shall be notified by the Technical Secretariat of the inspection not less than 48 hours before the arrival of the inspection team at the plant site to be inspected.

C. Transfers to States not party to this convention

31. Schedule 2 chemicals shall only be transferred to or received from States Parties. This obligation shall take effect three years after entry into force of this Convention.

32. During this interim three-year period, each State Party shall require an end-use certificate, as specified below, for transfers of Schedule 2 chemicals to States not Party to this Convention. For such transfers, each State Party shall adopt the necessary measures to ensure that the transferred chemicals shall only be used for purposes not prohibited under this Convention. Inter alia, the State Party shall require from the recipient State a certificate stating, in relation to the transferred chemicals:

(a) That they will only be used for purposes not prohibited under this Convention;

(b) That they will not be re-transferred;

(c) Their types and quantities;

(d) Their end-use(s); and

(e) The name(s) and address(es) of the end-user(s).

PART VIII

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR SCHEDULE 3 CHEMICALS AND FACILITIES RELATED TO SUCH CHEMICALS

A. Declarations

Declarations of aggregate national data

1. The initial and annual declarations to be provided by a State Party pursuant to Article VI, paragraphs 7 and 8, shall include aggregate national data for the previous calendar year on the quantities produced, imported and exported of each Schedule 3 chemical, as well as a quantitative specification of import and export for each country involved.

2. Each State Party shall submit:

(a) Initial declarations pursuant to paragraph 1 not later than 30 days after this Convention enters into force for it; and, starting in the following calendar year,

(b) Annual declarations not later than 90 days after the end of the previous calendar year.

Declarations of plant sites producing Schedule 3 chemicals

3. Initial and annual declarations are required for all plant sites that comprise one or more plants which produced during the previous calendar year or are anticipated to produce in the next calendar year more than 30 tonnes of a Schedule 3 chemical.

4. Each State Party shall submit:

(a) Initial declarations pursuant to paragraph 3 not later than 30 days after this Convention enters into force for it; and, starting in the following calendar year;

(b) Annual declarations on past activities not later than 90 days after the end of the previous calendar year;

(c) Annual declarations on anticipated activities not later than 60 days before the beginning of the following calendar year. Any such activity additionally planned after the annual declaration has been submitted shall be declared not later than five days before this activity begins.

5. Declarations pursuant to paragraph 3 are generally not required for mixtures containing a low concentration of a Schedule 3 chemical. They are only required, in accordance with guidelines, in such cases where the ease of recovery from the mixture of the Schedule 3 chemical and its total weight are deemed to pose a risk to the object and purpose of this Convention. These guidelines shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

6. Declarations of a plant site pursuant to paragraph 3 shall include:

(a) The name of the plant site and the name of the owner, company, or enterprise operating it;

(b) Its precise location including the address; and

(c) The number of plants within the plant site which are declared pursuant to Part VII of this Annex.

7. Declarations of a plant site pursuant to paragraph 3 shall also include, for each plant which is located within the plant site and which falls under the specifications set forth in paragraph 3, the following information:

(a) The name of the plant and the name of the owner, company, or enterprise operating it;

(b) Its precise location within the plant site, including the specific building or structure number, if any;

(c) Its main activities.

8. Declarations of a plant site pursuant to paragraph 3 shall also include the following information on each Schedule 3 chemical above the declaration threshold:

(a) The chemical name, common or trade name used by the facility, structural formula, and Chemical Abstracts Service registry number, if assigned;

(b) The approximate amount of production of the chemical in the previous calendar year, or, in case of declarations on anticipated activities, anticipated for the next calendar year, expressed in the ranges: 30 to 200 tonnes, 200 to 1,000 tonnes, 1,000 to 10,000 tonnes, 10,000 to 100,000 tonnes, and above 100,000 tonnes; and

(c) The purposes for which the chemical was or will be produced.

Declarations on past production of Schedule 3 chemicals for chemical weapons purposes

9. Each State Party shall, not later than 30 days after this Convention enters into force for it, declare all plant sites comprising plants that produced at any time since 1 January 1946 a Schedule 3 chemical for chemical weapons purposes.

10. Declarations of a plant site pursuant to paragraph 9 shall include:

(a) The name of the plant site and the name of the owner, company, or enterprise operating it;

(b) Its precise location including the address;

(c) For each plant which is located within the plant site, and which falls under the specifications set forth in paragraph 9, the same information as required under paragraph 7, subparagraphs (a) to (c); and

(d) For each Schedule 3 chemical produced for chemical weapons purposes:

(i) The chemical name, common or trade name used by the plant site for chemical weapons production purposes, structural formula, and Chemical Abstracts Service registry number, if assigned;

(ii) The dates when the chemical was produced and the quantity produced; and

(iii) The location to which the chemical was delivered and the final product produced there, if known.

Information to States Parties

11. A list of plant sites declared under this Section together with the information provided under paragraphs 6, 7 (a), 7 (c), 8 (a) and 10 shall be transmitted by the Technical Secretariat to States Parties upon request.

B. Verification

General

12. Verification provided for in paragraph 5 of Article VI shall be carried out through on-site inspections at those declared plant sites which produced during the previous calendar year or are anticipated to produce in the next calendar year in excess of 200 tonnes aggregate of any Schedule 3 chemical above the declaration threshold of 30 tonnes.

13. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a), shall contain, as a separate item, a programme and budget for verification under this Section taking into account Part VII, paragraph 13, of this Annex.

14. Under this Section, the Technical Secretariat shall randomly select plant sites for inspection through appropriate mechanisms, such as the use of specially designed computer software, on the basis of the following weighting factors:

(a) Equitable geographical distribution of inspections; and

(b) The information on the declared plant sites available to the Technical Secretariat, related to the relevant chemical, the

characteristics of the plant site and the nature of the activities carried out there.

15. No plant site shall receive more than two inspections per year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

16. In selecting plant sites for inspection under this Section, the Technical Secretariat shall observe the following limitation for the combined number of inspections to be received by a State Party per calendar year under this Part and Part IX of this Annex: the combined number of inspections shall not exceed three plus 5 percent of the total number of plant sites declared by a State Party under both this Part and Part IX of this Annex, or 20 inspections, whichever of these two figures is lower.

Inspection aims

17. At plant sites declared under Section A, the general aim of inspections shall be to verify that activities are consistent with the information to be provided in declarations. The particular aim of inspections shall be the verification of the absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex.

Inspection procedures

18. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 19 to 25 below shall apply.

19. There shall be no facility agreement, unless requested by the inspected State Party.

20. The focus of the inspections shall be the declared Schedule 3 plant(s) within the declared plant site. If the inspection team, in accordance with Part II, paragraph 51, of this Annex, requests access to other parts of the plant site for clarification of ambiguities, the extent of such access shall be agreed between the inspection team and the inspected State Party.

21. The inspection team may have access to records in situations in which the inspection team and the inspected State Party agree that such access will assist in achieving the objectives of the inspection.

22. Sampling and on-site analysis may be undertaken to check for the absence of undeclared scheduled chemicals. In case of unresolved ambiguities, samples may be analyzed in a designated off-site laboratory, subject to the inspected State Party's agreement.

23. Areas to be inspected may include:

(a) Areas where feed chemicals (reactants) are delivered or stored;

(b) Areas where manipulative processes are performed upon the reactants prior to addition to the reaction vessel;

(c) Feed lines as appropriate from the areas referred to in subparagraph (a) or subparagraph (b) to the reaction vessel together with any associated valves, flow meters, etc.;

(d) The external aspect of the reaction vessels and ancillary equipment;

(e) Lines from the reaction vessels leading to long- or short-term storage or to equipment further processing the declared Schedule 3 chemicals;

(f) Control equipment associated with any of the items under subparagraphs (a) to (e);

(g) Equipment and areas for waste and effluent handling;

(h) Equipment and areas for disposition of chemicals not up to specification.

24. The period of inspection shall not last more than 24 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of inspection

25. A State Party shall be notified by the Technical Secretariat of the inspection not less than 120 hours before the arrival of the inspection team at the plant site to be inspected.

C. Transfers to states not party to this convention

26. When transferring Schedule 3 chemicals to States not Party to this Convention, each State Party shall adopt the necessary measures to ensure that the transferred chemicals shall only be used for purposes not prohibited under this Convention. Inter alia, the State Party shall require from the recipient State a certificate stating, in relation to the transferred chemicals:

(a) That they will only be used for purposes not prohibited under this Convention;

(b) That they will not be re-transferred;

(c) Their types and quantities;

(d) Their end-use(s); and

(e) The name(s) and address(es) of the end-user(s).

27. Five years after entry into force of this Convention, the Conference shall consider the need to establish other measures regarding transfers of Schedule 3 chemicals to States not Party to this Convention.

PART IX

ACTIVITIES NOT PROHIBITED UNDER THIS CONVENTION IN ACCORDANCE WITH ARTICLE VI

REGIME FOR OTHER CHEMICAL PRODUCTION FACILITIES

A. Declarations

List of other chemical production facilities

1. The initial declaration to be provided by each State Party pursuant to Article VI, paragraph 7, shall include a list of all plant sites that:

(a) Produced by synthesis during the previous calendar year more than 200 tonnes of unscheduled discrete organic chemicals; or

(b) Comprise one or more plants which produced by synthesis during the previous calendar year more than 30 tonnes of an unscheduled discrete organic chemical containing the ele-

ments phosphorus, sulfur or fluorine (hereinafter referred to as "PSF-plants" and "PSF-chemical").

2. The list of other chemical production facilities to be submitted pursuant to paragraph 1 shall not include plant sites that exclusively produced explosives or hydrocarbons.

3. Each State Party shall submit its list of other chemical production facilities pursuant to paragraph 1 as part of its initial declaration not later than 30 days after this Convention enters into force for it. Each State Party shall, not later than 90 days after the beginning of each following calendar year, provide annually the information necessary to update the list.

4. The list of other chemical production facilities to be submitted pursuant to paragraph 1 shall include the following information on each plant site:

(a) The name of the plant site and the name of the owner, company, or enterprise operating it;

(b) The precise location of the plant site including its address;

(c) Its main activities; and

(d) The approximate number of plants producing the chemicals specified in paragraph 1 in the plant site.

5. With regard to plant sites listed pursuant to paragraph 1 (a), the list shall also include information on the approximate aggregate amount of production of the unscheduled discrete organic chemicals in the previous calendar year expressed in the ranges: under 1,000 tonnes, 1,000 to 10,000 tonnes and above 10,000 tonnes.

6. With regard to plant sites listed pursuant to paragraph 1 (b), the list shall also specify the number of PSF-plants within the plant site and include information on the approximate aggregate amount of production of PSF-chemicals produced by each PSF-plant in the previous calendar year expressed in the ranges: under 200 tonnes, 200 to 1,000 tonnes, 1,000 to 10,000 tonnes and above 10,000 tonnes.

Assistance by the Technical Secretariat

7. If a State Party, for administrative reasons, deems it necessary to ask for assistance in compiling its list of chemical production facilities pursuant to paragraph 1, it may request the Technical Secretariat to provide such assistance. Questions as to the completeness of the list shall then be resolved through consultations between the State Party and the Technical Secretariat.

Information to States Parties

8. The lists of other chemical production facilities submitted pursuant to paragraph 1, including the information provided under paragraph 4, shall be transmitted by the Technical Secretariat to States Parties upon request.

B. Verification

General

9. Subject to the provisions of Section C, verification as provided for in Article VI, paragraph 6, shall be carried out through on-site inspection at:

(a) Plant sites listed pursuant to paragraph 1 (a); and

(b) Plant sites listed pursuant to paragraph 1 (b) that comprise one or more PSF-plants which produced during the previous calendar year more than 200 tonnes of a PSF-chemical.

10. The programme and budget of the Organization to be adopted by the Conference pursuant to Article VIII, paragraph 21 (a), shall contain, as a separate item, a programme and budget for verification under this Section after its implementation has started.

11. Under this Section, the Technical Secretariat shall randomly select plant sites for inspection through appropriate mechanisms, such as the use of specially designed computer software, on the basis of the following weighting factors:

(a) Equitable geographical distribution of inspections;

(b) The information on the listed plant sites available to the Technical Secretariat, related to the characteristics of the plant site and the activities carried out there; and

(c) Proposals by States Parties on a basis to be agreed upon in accordance with paragraph 25.

12. No plant site shall receive more than two inspections per year under the provisions of this Section. This, however, shall not limit inspections pursuant to Article IX.

13. In selecting plant sites for inspection under this Section, the Technical Secretariat shall observe the following limitation for the combined number of inspections to be received by a State Party per calendar year under this Part and Part VIII of this Annex: the combined number of inspections shall not exceed three plus 5 per cent of the total number of plant sites declared by a State Party under both this Part and Part VIII of this Annex, or 20 inspections, whichever of these two figures is lower.

Inspection aims

14. At plant sites listed under Section A, the general aim of inspections shall be to verify that activities are consistent with the information to be provided in declarations. The particular aim of inspections shall be the verification of the absence of any Schedule 1 chemical, especially its production, except if in accordance with Part VI of this Annex.

Inspection procedures

15. In addition to agreed guidelines, other relevant provisions of this Annex and the Confidentiality Annex, paragraphs 16 to 20 below shall apply.

16. There shall be no facility agreement, unless requested by the inspected State Party.

17. The focus of inspection at a plant site selected for inspection shall be the plant(s) producing the chemicals specified in paragraph 1, in particular the PSF-plants listed pursuant to paragraph 1 (b). The inspected State Party shall have the right to manage ac-

cess to these plants in accordance with the rules of managed access as specified in Part X, Section C, of this Annex. If the inspection team, in accordance with Part II, paragraph 51, of this Annex, requests access to other parts of the plant site for clarification of ambiguities, the extent of such access shall be agreed between the inspection team and the inspected State Party.

18. The inspection team may have access to records in situations in which the inspection team and the inspected State Party agree that such access will assist in achieving the objectives of the inspection.

19. Sampling and on-site analysis may be undertaken to check for the absence of undeclared scheduled chemicals. In cases of unresolved ambiguities, samples may be analyzed in a designated off-site laboratory, subject to the inspected State Party's agreement.

20. The period of inspection shall not last more than 24 hours; however, extensions may be agreed between the inspection team and the inspected State Party.

Notification of inspection

21. A State Party shall be notified by the Technical Secretariat of the inspection not less than 120 hours before the arrival of the inspection team at the plant site to be inspected.

C. Implementation and review of Section B

Implementation

22. The implementation of Section B shall start at the beginning of the fourth year after entry into force of this Convention unless the Conference, at its regular session in the third year after entry into force of this Convention, decides otherwise.

23. The Director-General shall, for the regular session of the Conference in the third year after entry into force of this Convention, prepare a report which outlines the experience of the Technical Secretariat in implementing the provisions of Parts VII and VIII of this Annex as well as of Section A of this Part.

24. At its regular session in the third year after entry into force of this Convention, the Conference, on the basis of a report of the Director-General, may also decide on the distribution of resources available for verification under Section B between "PSF-plants" and other chemical production facilities. Otherwise, this distribution shall be left to the expertise of the Technical Secretariat and be added to the weighting factors in paragraph 11.

25. At its regular session in the third year after entry into force of this Convention, the Conference, upon advice of the Executive Council, shall decide on which basis (e.g. regional) proposals by States Parties for inspections should be presented to be taken into account as a weighting factor in the selection process specified in paragraph 11.

Review

26. At the first special session of the Conference convened pursuant to Article VIII, paragraph 22, the provisions of this Part of the Verification Annex shall be re-examined in the light of a comprehensive review of the overall verification regime for the chemi-

cal industry (Article VI, Parts VII to IX of this Annex) on the basis of the experience gained. The Conference shall then make recommendations so as to improve the effectiveness of the verification regime.

PART X

CHALLENGE INSPECTIONS PURSUANT TO ARTICLE IX

A. Designation and selection of inspectors and inspection assistants

1. Challenge inspections pursuant to Article IX shall only be performed by inspectors and inspection assistants especially designated for this function. In order to designate inspectors and inspection assistants for challenge inspections pursuant to Article IX, the Director-General shall, by selecting inspectors and inspection assistants from among the inspectors and inspection assistants for routine inspection activities, establish a list of proposed inspectors and inspection assistants. It shall comprise a sufficiently large number of inspectors and inspection assistants having the necessary qualification, experience, skill and training, to allow for flexibility in the selection of the inspectors, taking into account their availability, and the need for rotation. Due regard shall be paid also to the importance of selecting inspectors and inspection assistants on as wide a geographical basis as possible. The designation of inspectors and inspection assistants shall follow the procedures provided for under Part II, Section A, of this Annex.

2. The Director-General shall determine the size of the inspection team and select its members taking into account the circumstances of a particular request. The size of the inspection team shall be kept to a minimum necessary for the proper fulfillment of the inspection mandate. No national of the requesting State Party or the inspected State Party shall be a member of the inspection team.

B. Pre-inspection activities

3. Before submitting the inspection request for a challenge inspection, the State Party may seek confirmation from the Director-General that the Technical Secretariat is in a position to take immediate action on the request. If the Director-General cannot provide such confirmation immediately, he shall do so at the earliest opportunity, in keeping with the order of requests for confirmation. He shall also keep the State Party informed of when it is likely that immediate action can be taken. Should the Director-General reach the conclusion that timely action on requests can no longer be taken, he may ask the Executive Council to take appropriate action to improve the situation in the future.

Notification

4. The inspection request for a challenge inspection to be submitted to the Executive Council and the Director-General shall contain at least the following information:

(a) The State Party to be inspected and, if applicable, the Host State;

(b) The point of entry to be used;

(c) The size and type of the inspection site;

(d) The concern regarding possible non-compliance with this Convention including a specification of the relevant provisions of this Convention about which the concern has arisen, and of the nature and circumstances of the possible non-compliance as well as all appropriate information on the basis of which the concern has arisen; and

(e) The name of the observer of the requesting State Party. The requesting State Party may submit any additional information it deems necessary.

5. The Director-General shall within one hour acknowledge to the requesting State Party receipt of its request.

6. The requesting State Party shall notify the Director-General of the location of the inspection site in due time for the Director-General to be able to provide this information to the inspected State Party not less than 12 hours before the planned arrival of the inspection team at the point of entry.

7. The inspection site shall be designated by the requesting State Party as specifically as possible by providing a site diagram related to a reference point with geographic coordinates, specified to the nearest second if possible. If possible, the requesting State Party shall also provide a map with a general indication of the inspection site and a diagram specifying as precisely as possible the requested perimeter of the site to be inspected.

8. The requested perimeter shall:

(a) Run at least a 10 meter distance outside any buildings or other structures;

(b) Not cut through existing security enclosures; and

(c) Run at least a 10 meter distance outside any existing security enclosures that the requesting State Party intends to include within the requested perimeter.

9. If the requested perimeter does not conform with the specifications of paragraph 8, it shall be redrawn by the inspection team so as to conform with that provision.

10. The Director-General shall, not less than 12 hours before the planned arrival of the inspection team at the point of entry, inform the Executive Council about the location of the inspection site as specified in paragraph 7.

11. Contemporaneously with informing the Executive Council according to paragraph 10, the Director-General shall transmit the inspection request to the inspected State Party including the location of the inspection site as specified in paragraph 7. This notification shall also include the information specified in Part II, paragraph 32, of this Annex.

12. Upon arrival of the inspection team at the point of entry, the inspected State Party shall be informed by the inspection team of the inspection mandate.

Entry into the territory of the inspected State Party or the Host State

13. The Director-General shall, in accordance with Article IX, paragraphs 13 to 18, dispatch an inspection team as soon as possible after an inspection request has been received. The inspection team shall arrive at the point of entry specified in the request in

the minimum time possible, consistent with the provisions of paragraphs 10 and 11.

14. If the requested perimeter is acceptable to the inspected State Party, it shall be designated as the final perimeter as early as possible, but in no case later than 24 hours after the arrival of the inspection team at the point of entry. The inspected State Party shall transport the inspection team to the final perimeter of the inspection site. If the inspected State Party deems it necessary, such transportation may begin up to 12 hours before the expiry of the time period specified in this paragraph for the designation of the final perimeter. Transportation shall, in any case, be completed not later than 36 hours after the arrival of the inspection team at the point of entry.

15. For all declared facilities, the procedures in subparagraphs (a) and (b) shall apply. (For the purposes of this Part, "declared facility" means all facilities declared pursuant to Articles III, IV, and V. With regard to Article VI, "declared facility" means only facilities declared pursuant to Part VI of this Annex, as well as declared plants specified by declarations pursuant to Part VII, paragraphs 7 and 10 (c), and Part VIII, paragraphs 7 and 10 (c), of this Annex.)

(a) If the requested perimeter is contained within or conforms with the declared perimeter, the declared perimeter shall be considered the final perimeter. The final perimeter may, however, if agreed by the inspected State Party, be made smaller in order to conform with the perimeter requested by the requesting State Party.

(b) The inspected State Party shall transport the inspection team to the final perimeter as soon as practicable, but in any case shall ensure their arrival at the perimeter not later than 24 hours after the arrival of the inspection team at the point of entry.

Alternative determination of final perimeter

16. At the point of entry, if the inspected State Party cannot accept the requested perimeter, it shall propose an alternative perimeter as soon as possible, but in any case not later than 24 hours after the arrival of the inspection team at the point of entry. In case of differences of opinion, the inspected State Party and the inspection team shall engage in negotiations with the aim of reaching agreement on a final perimeter.

17. The alternative perimeter should be designated as specifically as possible in accordance with paragraph 8. It shall include the whole of the requested perimeter and should, as a rule, bear a close relationship to the latter, taking into account natural terrain features and man-made boundaries. It should normally run close to the surrounding security barrier if such a barrier exists. The inspected State Party should seek to establish such a relationship between the perimeters by a combination of at least two of the following means:

(a) An alternative perimeter that does not extend to an area significantly greater than that of the requested perimeter;

(b) An alternative perimeter that is a short, uniform distance from the requested perimeter;

(c) At least part of the requested perimeter is visible from the alternative perimeter.

18. If the alternative perimeter is acceptable to the inspection team, it shall become the final perimeter and the inspection team shall be transported from the point of entry to that perimeter. If the inspected State Party deems it necessary, such transportation may begin up to 12 hours before the expiry of the time period specified in paragraph 16 for proposing an alternative perimeter. Transportation shall, in any case, be completed not later than 36 hours after the arrival of the inspection team at the point of entry.

19. If a final perimeter is not agreed, the perimeter negotiations shall be concluded as early as possible, but in no case shall they continue more than 24 hours after the arrival of the inspection team at the point of entry. If no agreement is reached, the inspected State Party shall transport the inspection team to a location at the alternative perimeter. If the inspected State Party deems it necessary, such transportation may begin up to 12 hours before the expiry of the time period specified in paragraph 16 for proposing an alternative perimeter. Transportation shall, in any case, be completed not later than 36 hours after the arrival of the inspection team at the point of entry.

20. Once at the location, the inspected State Party shall provide the inspection team with prompt access to the alternative perimeter to facilitate negotiations and agreement on the final perimeter and access within the final perimeter.

21. If no agreement is reached within 72 hours after the arrival of the inspection team at the location, the alternative perimeter shall be designated the final perimeter.

Verification of location

22. To help establish that the inspection site to which the inspection team has been transported corresponds to the inspection site specified by the requesting State Party, the inspection team shall have the right to use approved location-finding equipment and have such equipment installed according to its directions. The inspection team may verify its location by reference to local landmarks identified from maps. The inspected State Party shall assist the inspection team in this task.

Securing the site, exit monitoring

23. Not later than 12 hours after the arrival of the inspection team at the point of entry, the inspected State Party shall begin collecting factual information of all vehicular exit activity from all exit points for all land, air, and water vehicles of the requested perimeter. It shall provide this information to the inspection team upon its arrival at the alternative or final perimeter, whichever occurs first.

24. This obligation may be met by collecting factual information in the form of traffic logs, photographs, video recordings, or data from chemical evidence equipment provided by the inspection team to monitor such exit activity. Alternatively, the inspected State Party may also meet this obligation by allowing one or more members of the inspection team independently to maintain traffic logs, take photographs, make video recordings of exit traffic, or use

chemical evidence equipment, and conduct other activities as may be agreed between the inspected State Party and the inspection team.

25. Upon the inspection team's arrival at the alternative perimeter or final perimeter, whichever occurs first, securing the site, which means exit monitoring procedures by the inspection team, shall begin.

26. Such procedures shall include: the identification of vehicular exits, the making of traffic logs, the taking of photographs, and the making of video recordings by the inspection team of exits and exit traffic. The inspection team has the right to go, under escort, to any other part of the perimeter to check that there is no other exit activity.

27. Additional procedures for exit monitoring activities as agreed upon by the inspection team and the inspected State Party may include, inter alia:

(a) Use of sensors;

(b) Random selective access;

(c) Sample analysis.

28. All activities for securing the site and exit monitoring shall take place within a band around the outside of the perimeter, not exceeding 50 meters in width, measured outward.

29. The inspection team has the right to inspect on a managed access basis vehicular traffic exiting the site. The inspected State Party shall make every reasonable effort to demonstrate to the inspection team that any vehicle, subject to inspection, to which the inspection team is not granted full access, is not being used for purposes related to the possible non-compliance concerns raised in the inspection request.

30. Personnel and vehicles entering and personnel and personal passenger vehicles exiting the site are not subject to inspection.

31. The application of the above procedures may continue for the duration of the inspection, but may not unreasonably hamper or delay the normal operation of the facility.

Pre-inspection briefing and inspection plan

32. To facilitate development of an inspection plan, the inspected State Party shall provide a safety and logistical briefing to the inspection team prior to access.

33. The pre-inspection briefing shall be held in accordance with Part II, paragraph 37, of this Annex. In the course of the pre-inspection briefing, the inspected State Party may indicate to the inspection team the equipment, documentation, or areas it considers sensitive and not related to the purpose of the challenge inspection. In addition, personnel responsible for the site shall brief the inspection team on the physical layout and other relevant characteristics of the site. The inspection team shall be provided with a map or sketch drawn to scale showing all structures and significant geographic features at the site. The inspection team shall also be briefed on the availability of facility personnel and records.

34. After the pre-inspection briefing, the inspection team shall prepare, on the basis of the information available and appropriate to it, an initial inspection plan which specifies the activities to be carried out by the inspection team, including the specific areas of

the site to which access is desired. The inspection plan shall also specify whether the inspection team will be divided into subgroups. The inspection plan shall be made available to the representatives of the inspected State Party and the inspection site. Its implementation shall be consistent with the provisions of Section C, including those related to access and activities.

Perimeter activities

35. Upon the inspection team's arrival at the final or alternative perimeter, whichever occurs first, the team shall have the right to commence immediately perimeter activities in accordance with the procedures set forth under this Section, and to continue these activities until the completion of the challenge inspection.

36. In conducting the perimeter activities, the inspection team shall have the right to:

(a) Use monitoring instruments in accordance with Part II, paragraphs 27 to 30, of this Annex;

(b) Take wipes, air, soil or effluent samples; and

(c) Conduct any additional activities which may be agreed between the inspection team and the inspected State Party.

37. The perimeter activities of the inspection team may be conducted within a band around the outside of the perimeter up to 50 meters in width measured outward from the perimeter. If the inspected State Party agrees, the inspection team may also have access to any building or structure within the perimeter band. All directional monitoring shall be oriented inward. For declared facilities, at the discretion of the inspected State Party, the band could run inside, outside, or on both sides of the declared perimeter.

C. Conduct of inspections

General rules

38. The inspected State Party shall provide access within the requested perimeter as well as, if different, the final perimeter. The extent and nature of access to a particular place or places within these perimeters shall be negotiated between the inspection team and the inspected State Party on a managed access basis.

39. The inspected State Party shall provide access within the requested perimeter as soon as possible, but in any case not later than 108 hours after the arrival of the inspection team at the point of entry in order to clarify the concern regarding possible non-compliance with this Convention raised in the inspection request.

40. Upon the request of the inspection team, the inspected State Party may provide aerial access to the inspection site.

41. In meeting the requirement to provide access as specified in paragraph 38, the inspected State Party shall be under the obligation to allow the greatest degree of access taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures. The inspected State Party has the right under managed access to take such measures as are necessary to protect national security. The provisions in this paragraph may not be invoked by the inspected State Party to conceal evasion of its obligations not to engage in activities prohibited under this Convention.

42. If the inspected State Party provides less than full access to places, activities, or information, it shall be under the obligation to make every reasonable effort to provide alternative means to clarify the possible non-compliance concern that generated the challenge inspection.

43. Upon arrival at the final perimeter of facilities declared pursuant to Articles IV, V and VI, access shall be granted following the pre-inspection briefing and discussion of the inspection plan which shall be limited to the minimum necessary and in any event shall not exceed three hours. For facilities declared pursuant to Article III, paragraph 1(d), negotiations shall be conducted and managed access commenced not later than 12 hours after arrival at the final perimeter.

44. In carrying out the challenge inspection in accordance with the inspection request, the inspection team shall use only those methods necessary to provide sufficient relevant facts to clarify the concern about possible non-compliance with the provisions of this Convention, and shall refrain from activities not relevant thereto. It shall collect and document such facts as are related to the possible non-compliance with this Convention by the inspected State Party, but shall neither seek nor document information which is clearly not related thereto, unless the inspected State Party expressly requests it to do so. Any material collected and subsequently found not to be relevant shall not be retained.

45. The inspection team shall be guided by the principle of conducting the challenge inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission. Wherever possible, it shall begin with the least intrusive procedures it deems acceptable and proceed to more intrusive procedures only as it deems necessary.

Managed access

46. The inspection team shall take into consideration suggested modifications of the inspection plan and proposals which may be made by the inspected State Party, at whatever stage of the inspection including the pre-inspection briefing, to ensure that sensitive equipment, information or areas, not related to chemical weapons, are protected.

47. The inspected State Party shall designate the perimeter entry/exit points to be used for access. The inspection team and the inspected State Party shall negotiate: the extent of access to any particular place or places within the final and requested perimeters as provided in paragraph 48; the particular inspection activities, including sampling, to be conducted by the inspection team; the performance of particular activities by the inspected State Party; and the provision of particular information by the inspected State Party.

48. In conformity with the relevant provisions in the Confidentiality Annex the inspected State Party shall have the right to take measures to protect sensitive installations and prevent disclosure of confidential information and data not related to chemical weapons. Such measures may include, *inter alia*:

(a) Removal of sensitive papers from office spaces;

(b) Shrouding of sensitive displays, stores, and equipment;

(c) Shrouding of sensitive pieces of equipment, such as computer or electronic systems;

(d) Logging off of computer systems and turning off of data indicating devices;

(e) Restriction of sample analysis to presence or absence of chemicals listed in Schedules 1, 2 and 3 or appropriate degradation products;

(f) Using random selective access techniques whereby the inspectors are requested to select a given percentage or number of buildings of their choice to inspect; the same principle can apply to the interior and content of sensitive buildings;

(g) In exceptional cases, giving only individual inspectors access to certain parts of the inspection site.

49. The inspected State Party shall make every reasonable effort to demonstrate to the inspection team that any object, building, structure, container or vehicle to which the inspection team has not had full access, or which has been protected in accordance with paragraph 48, is not used for purposes related to the possible non-compliance concerns raised in the inspection request.

50. This may be accomplished by means of, inter alia, the partial removal of a shroud or environmental protection cover, at the discretion of the inspected State Party, by means of a visual inspection of the interior of an enclosed space from its entrance, or by other methods.

51. In the case of facilities declared pursuant to Articles IV, V and VI, the following shall apply:

(a) For facilities with facility agreements, access and activities within the final perimeter shall be unimpeded within the boundaries established by the agreements;

(b) For facilities without facility agreements, negotiation of access and activities shall be governed by the applicable general inspection guidelines established under this Convention;

(c) Access beyond that granted for inspections under Articles IV, V and VI shall be managed in accordance with procedures of this section.

52. In the case of facilities declared pursuant to Article III, paragraph 1 (d), the following shall apply: if the inspected State Party, using procedures of paragraphs 47 and 48, has not granted full access to areas or structures not related to chemical weapons, it shall make every reasonable effort to demonstrate to the inspection team that such areas or structures are not used for purposes related to the possible non-compliance concerns raised in the inspection request.

Observer

53. In accordance with the provisions of Article IX, paragraph 12, on the participation of an observer in the challenge inspection, the requesting State Party shall liaise with the Technical Secretariat to coordinate the arrival of the observer at the same point of entry as the inspection team within a reasonable period of the inspection team's arrival.

54. The observer shall have the right throughout the period of inspection to be in communication with the embassy of the requesting State Party located in the inspected State Party or in the Host

State or, in the case of absence of an embassy, with the requesting State Party itself. The inspected State Party shall provide means of communication to the observer.

55. The observer shall have the right to arrive at the alternative or final perimeter of the inspection site, wherever the inspection team arrives first, and to have access to the inspection site as granted by the inspected State Party. The observer shall have the right to make recommendations to the inspection team, which the team shall take into account to the extent it deems appropriate. Throughout the inspection, the inspection team shall keep the observer informed about the conduct of the inspection and the findings.

56. Throughout the in-country period, the inspected State Party shall provide or arrange for the amenities necessary for the observer such as communication means, interpretation services, transportation, working space, lodging, meals and medical care. All the costs in connection with the stay of the observer on the territory of the inspected State Party or the Host State shall be borne by the requesting State Party.

Duration of inspection

57. The period of inspection shall not exceed 84 hours, unless extended by agreement with the inspected State Party.

D. Post-inspection activities

Departure

58. Upon completion of the post-inspection procedures at the inspection site, the inspection team and the observer of the requesting State Party shall proceed promptly to a point of entry and shall then leave the territory of the inspected State Party in the minimum time possible.

Reports

59. The inspection report shall summarize in a general way the activities conducted by the inspection team and the factual findings of the inspection team, particularly with regard to the concerns regarding possible non-compliance with this Convention cited in the request for the challenge inspection, and shall be limited to information directly related to this Convention. It shall also include an assessment by the inspection team of the degree and nature of access and cooperation granted to the inspectors and the extent to which this enabled them to fulfil the inspection mandate. Detailed information relating to the concerns regarding possible non-compliance with this Convention cited in the request for the challenge inspection shall be submitted as an Appendix to the final report and be retained within the Technical Secretariat under appropriate safeguards to protect sensitive information.

60. The inspection team shall, not later than 72 hours after its return to its primary work location, submit a preliminary inspection report, having taken into account, *inter alia,* paragraph 17 of the Confidentiality Annex, to the Director-General. The Director-General shall promptly transmit the preliminary inspection report

to the requesting State Party, the inspected State Party and to the Executive Council.

61. A draft final inspection report shall be made available to the inspected State Party not later than 20 days after the completion of the challenge inspection. The inspected State Party has the right to identify any information and data not related to chemical weapons which should, in its view, due to its confidential character, not be circulated outside the Technical Secretariat. The Technical Secretariat shall consider proposals for changes to the draft final inspection report made by the inspected State Party and, using its own discretion, wherever possible, adopt them. The final report shall then be submitted not later than 30 days after the completion of the challenge inspection to the Director-General for further distribution and consideration in accordance with Article IX, paragraphs 21 to 25.

PART XI

INVESTIGATIONS IN CASES OF ALLEGED USE OF CHEMICAL WEAPONS

A. General

1. Investigations of alleged use of chemical weapons, or of alleged use of riot control agents as a method of warfare, initiated pursuant to Articles IX or X, shall be conducted in accordance with this Annex and detailed procedures to be established by the Director-General.

2. The following additional provisions address specific procedures required in cases of alleged use of chemical weapons.

B. Pre-inspection activities

Request for an investigation

3. The request for an investigation of an alleged use of chemical weapons to be submitted to the Director-General, to the extent possible, should include the following information:

(a) The State Party on whose territory use of chemical weapons is alleged to have taken place;

(b) The point of entry or other suggested safe routes of access;

(c) Location and characteristics of the areas where chemical weapons are alleged to have been used;

(d) When chemical weapons are alleged to have been used;

(e) Types of chemical weapons believed to have been used;

(f) Extent of alleged use;

(g) Characteristics of the possible toxic chemicals;

(h) Effects on humans, animals and vegetation;

(i) Request for specific assistance, if applicable.

4. The State Party which has requested an investigation may submit at any time any additional information it deems necessary.

Notification

5. The Director-General shall immediately acknowledge receipt to the requesting State Party of its request and inform the Executive Council and all States Parties.

6. If applicable, the Director-General shall notify the State Party on whose territory an investigation has been requested. The Director-General shall also notify other States Parties if access to their territories might be required during the investigation.

Assignment of inspection team

7. The Director-General shall prepare a list of qualified experts whose particular field of expertise could be required in an investigation of alleged use of chemical weapons and constantly keep this list updated. This list shall be communicated, in writing, to each State Party not later than 30 days after entry into force of this Convention and after each change to the list. Any qualified expert included in this list shall be regarded as designated unless a State Party, not later than 30 days after its receipt of the list, declares its non-acceptance in writing.

8. The Director-General shall select the leader and members of an inspection team from the inspectors and inspection assistants already designated for challenge inspections taking into account the circumstances and specific nature of a particular request. In addition, members of the inspection team may be selected from the list of qualified experts when, in the view of the Director-General, expertise not available among inspectors already designated is required for the proper conduct of a particular investigation.

9. When briefing the inspection team, the Director-General shall include any additional information provided by the requesting State Party, or any other sources, to ensure that the inspection can be carried out in the most effective and expedient manner.

Dispatch of inspection team

10. Immediately upon the receipt of a request for an investigation of alleged use of chemical weapons the Director-General shall, through contacts with the relevant States Parties, request and confirm arrangements for the safe reception of the team.

11. The Director-General shall dispatch the team at the earliest opportunity, taking into account the safety of the team.

12. If the inspection team has not been dispatched within 24 hours from the receipt of the request, the Director-General shall inform the Executive Council and the States Parties concerned about the reasons for the delay.

Briefings

13. The inspection team shall have the right to be briefed by representatives of the inspected State Party upon arrival and at any time during the inspection.

14. Before the commencement of the inspection the inspection team shall prepare an inspection plan to serve, *inter alia,* as a basis for logistic and safety arrangements. The inspection plan shall be updated as need arises.

C. Conduct of inspections

Access

15. The inspection team shall have the right of access to any and all areas which could be affected by the alleged use of chemical

weapons. It shall also have the right of access to hospitals, refugee camps and other locations it deems relevant to the effective investigation of the alleged use of chemical weapons. For such access, the inspection team shall consult with the inspected State Party.

Sampling

16. The inspection team shall have the right to collect samples of types, and in quantities it considers necessary. If the inspection team deems it necessary, and if so requested by it, the inspected State Party shall assist in the collection of samples under the supervision of inspectors or inspection assistants. The inspected State Party shall also permit and cooperate in the collection of appropriate control samples from areas neighboring the site of the alleged use and from other areas as requested by the inspection team.

17. Samples of importance in the investigation of alleged use include toxic chemicals, munitions and devices, remnants of munitions and devices, environmental samples (air, soil, vegetation, water, snow, etc.) and biomedical samples from human or animal sources (blood, urine, excreta, tissue etc.).

18. If duplicate samples cannot be taken and the analysis is performed at off-site laboratories, any remaining sample shall, if so requested, be returned to the inspected State Party after the completion of the analysis.

Extension of inspection site

19. If the inspection team during an inspection deems it necessary to extend the investigation into a neighboring State Party, the Director-General shall notify that State Party about the need for access to its territory and request and confirm arrangements for the safe reception of the team.

Extension of inspection duration

20. If the inspection team deems that safe access to a specific area relevant to the investigation is not possible, the requesting State Party shall be informed immediately. If necessary, the period of inspection shall be extended until safe access can be provided and the inspection team will have concluded its mission.

Interviews

21. The inspection team shall have the right to interview and examine persons who may have been affected by the alleged use of chemical weapons. It shall also have the right to interview eyewitnesses of the alleged use of chemical weapons and medical personnel, and other persons who have treated or have come into contact with persons who may have been affected by the alleged use of chemical weapons. The inspection team shall have access to medical histories, if available, and be permitted to participate in autopsies, as appropriate, of persons who may have been affected by the alleged use of chemical weapons.

D. Reports

Procedures

22. The inspection team shall, not later than 24 hours after its arrival on the territory of the inspected State Party, send a situation report to the Director-General. It shall further throughout the investigation send progress reports as necessary.

23. The inspection team shall, not later than 72 hours after its return to its primary work location, submit a preliminary report to the Director-General. The final report shall be submitted to the Director-General not later than 30 days after its return to its primary work location. The Director-General shall promptly transmit the preliminary and final reports to the Executive Council and to all States Parties.

Contents

24. The situation report shall indicate any urgent need for assistance and any other relevant information. The progress reports shall indicate any further need for assistance that might be identified during the course of the investigation.

25. The final report shall summarize the factual findings of the inspection, particularly with regard to the alleged use cited in the request. In addition, a report of an investigation of an alleged use shall include a description of the investigation process, tracing its various stages, with special reference to:

(a) The locations and time of sampling and on-site analyses; and

(b) Supporting evidence, such as the records of interviews, the results of medical examinations and scientific analyses, and the documents examined by the inspection team.

26. If the inspection team collects through, inter alia, identification of any impurities or other substances during laboratory analysis of samples taken, any information in the course of its investigation that might serve to identify the origin of any chemical weapons used, that information shall be included in the report.

E. States not party to this convention

27. In the case of alleged use of chemical weapons involving a State not Party to this Convention or in territory not controlled by a State Party, the Organization shall closely cooperate with the Secretary-General of the United Nations. If so requested, the Organization shall put its resources at the disposal of the Secretary-General of the United Nations.

ANNEX ON THE PROTECTION OF CONFIDENTIAL INFORMATION ("CONFIDENTIALITY ANNEX")

A. GENERAL PRINCIPLES FOR THE HANDLING OF CONFIDENTIAL INFORMATION

1. The obligation to protect confidential information shall pertain to the verification of both civil and military activities and facilities. Pursuant to the general obligations set forth in Article VIII, the Organization shall:

(a) Require only the minimum amount of information and data necessary for the timely and efficient carrying out of its responsibilities under this Convention;

(b) Take the necessary measures to ensure that inspectors and other staff members of the Technical Secretariat meet the highest standards of efficiency, competence, and integrity;

(c) Develop agreements and regulations to implement the provisions of this Convention and shall specify as precisely as possible the information to which the Organization shall be given access by a State Party.

2. The Director-General shall have the primary responsibility for ensuring the protection of confidential information. The Director-General shall establish a stringent regime governing the handling of confidential information by the Technical Secretariat, and in doing so, shall observe the following guidelines:

(a) Information shall be considered confidential if:

(i) It is so designated by the State Party from which the information was obtained and to which the information refers; or

(ii) In the judgement of the Director-General, its unauthorized disclosure could reasonably be expected to cause damage to the State Party to which it refers or to the mechanisms for implementation of this Convention;

(b) All data and documents obtained by the Technical Secretariat shall be evaluated by the appropriate unit of the Technical Secretariat in order to establish whether they contain confidential information. Data required by States Parties to be assured of the continued compliance with this Convention by other States Parties shall be routinely provided to them. Such data shall encompass:

(i) The initial and annual reports and declarations provided by States Parties under Articles III, IV, V and VI, in accordance with the provisions set forth in the Verification Annex;

(ii) General reports on the results and effectiveness of verification activities; and

(iii) Information to be supplied to all States Parties in accordance with the provisions of this Convention;

(c) No information obtained by the Organization in connection with the implementation of this Convention shall be published or otherwise released, except, as follows:

(i) General information on the implementation of this Convention may be compiled and released publicly in accordance with the decisions of the Conference or the Executive Council;

(ii) Any information may be released with the express consent of the State Party to which the information refers;

(iii) Information classified as confidential shall be released by the Organization only through procedures which ensure that the release of information only occurs in strict conformity with the needs of this Convention. Such procedures shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i);

(d) The level of sensitivity of confidential data or documents shall be established, based on criteria to be applied uniformly in order to ensure their appropriate handling and protection. For this purpose, a classification system shall be introduced, which by taking account of relevant work undertaken in the preparation of this Convention shall provide for clear criteria ensuring the inclusion of information into appropriate categories of confidentiality and the justified durability of the confidential nature of information. While providing for the necessary flexibility in its implementation the classification system shall protect the rights of States Parties providing confidential information. A classification system shall be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i);

(e) Confidential information shall be stored securely at the premises of the Organization. Some data or documents may also be stored with the National Authority of a State Party. Sensitive information, including, inter alia, photographs, plans and other documents required only for the inspection of a specific facility may be kept under lock and key at this facility;

(f) To the greatest extent consistent with the effective implementation of the verification provisions of this Convention, information shall be handled and stored by the Technical Secretariat in a form that precludes direct identification of the facility to which it pertains;

(g) The amount of confidential information removed from a facility shall be kept to the minimum necessary for the timely and effective implementation of the verification provisions of this Convention; and

(h) Access to confidential information shall be regulated in accordance with its classification. The dissemination of confidential information within the Organization shall be strictly on a need-to-know basis.

3. The Director-General shall report annually to the Conference on the implementation of the regime governing the handling of confidential information by the Technical Secretariat.

4. Each State Party shall treat information which it receives from the Organization in accordance with the level of confidentiality established for that information. Upon request, a State Party shall provide details on the handling of information provided to it by the Organization.

B. EMPLOYMENT AND CONDUCT OF PERSONNEL IN THE TECHNICAL SECRETARIAT

5. Conditions of staff employment shall be such as to ensure that access to and handling of confidential information shall be in conformity with the procedures established by the Director-General in accordance with Section A.

6. Each position in the Technical Secretariat shall be governed by a formal position description that specifies the scope of access to confidential information, if any, needed in that position.

7. The Director-General, the inspectors and the other members of the staff shall not disclose even after termination of their functions to any unauthorized persons any confidential information

coming to their knowledge in the performance of their official duties. They shall not communicate to any State, organization or person outside the Technical Secretariat any information to which they have access in connection with their activities in relation to any State Party.

8. In the discharge of their functions inspectors shall only request the information and data which are necessary to fulfil their mandate. They shall not make any records of information collected incidentally and not related to verification of compliance with this Convention.

9. The staff shall enter into individual secrecy agreements with the Technical Secretariat covering their period of employment and a period of five years after it is terminated.

10. In order to avoid improper disclosures, inspectors and staff members shall be appropriately advised and reminded about security considerations and of the possible penalties that they would incur in the event of improper disclosure.

11. Not less than 30 days before an employee is given clearance for access to confidential information that refers to activities on the territory or in any other place under the jurisdiction or control of a State Party, the State Party concerned shall be notified of the proposed clearance. For inspectors the notification of a proposed designation shall fulfil this requirement.

12. In evaluating the performance of inspectors and any other employees of the Technical Secretariat, specific attention shall be given to the employee's record regarding protection of confidential information.

C. MEASURES TO PROTECT SENSITIVE INSTALLATIONS AND PREVENT DISCLOSURE OF CONFIDENTIAL DATA IN THE COURSE OF ON-SITE VERIFICATION ACTIVITIES

13. States Parties may take such measures as they deem necessary to protect confidentiality, provided that they fulfil their obligations to demonstrate compliance in accordance with the relevant Articles and the Verification Annex. When receiving an inspection, the State Party may indicate to the inspection team the equipment, documentation or areas that it considers sensitive and not related to the purpose of the inspection.

14. Inspection teams shall be guided by the principle of conducting on-site inspections in the least intrusive manner possible consistent with the effective and timely accomplishment of their mission. They shall take into consideration proposals which may be made by the State Party receiving the inspection, at whatever stage of the inspection, to ensure that sensitive equipment or information, not related to chemical weapons, is protected.

15. Inspection teams shall strictly abide by the provisions set forth in the relevant Articles and Annexes governing the conduct of inspections. They shall fully respect the procedures designed to protect sensitive installations and to prevent the disclosure of confidential data.

16. In the elaboration of arrangements and facility agreements, due regard shall be paid to the requirement of protecting confidential information. Agreements on inspection procedures for individual facilities shall also include specific and detailed arrangements

with regard to the determination of those areas of the facility to which inspectors are granted access, the storage of confidential information on-site, the scope of the inspection effort in agreed areas, the taking of samples and their analysis, the access to records and the use of instruments and continuous monitoring equipment.

17. The report to be prepared after each inspection shall only contain facts relevant to compliance with this Convention. The report shall be handled in accordance with the regulations established by the Organization governing the handling of confidential information. If necessary, the information contained in the report shall be processed into less sensitive forms before it is transmitted outside the Technical Secretariat and the inspected State Party.

D. PROCEDURES IN CASE OF BREACHES OR ALLEGED BREACHES OF CONFIDENTIALITY

18. The Director-General shall establish necessary procedures to be followed in case of breaches or alleged breaches of confidentiality, taking into account recommendations to be considered and approved by the Conference pursuant to Article VIII, paragraph 21 (i).

19. The Director-General shall oversee the implementation of individual secrecy agreements. The Director-General shall promptly initiate an investigation if, in his judgement, there is sufficient indication that obligations concerning the protection of confidential information have been violated. The Director-General shall also promptly initiate an investigation if an allegation concerning a breach of confidentiality is made by a State Party.

20. The Director-General shall impose appropriate punitive and disciplinary measures on staff members who have violated their obligations to protect confidential information. In cases of serious breaches, the immunity from jurisdiction may be waived by the Director-General.

21. States Parties shall, to the extent possible, cooperate and support the Director-General in investigating any breach or alleged breach of confidentiality and in taking appropriate action in case a breach has been established.

22. The Organization shall not be held liable for any breach of confidentiality committed by members of the Technical Secretariat.

23. For breaches involving both a State Party and the Organization, a "Commission for the settlement of disputes related to confidentiality", set up as a subsidiary organ of the Conference, shall consider the case. This Commission shall be appointed by the Conference. Rules governing its composition and operating procedures shall be adopted by the Conference at its first session.

OTHER DOCUMENTS ASSOCIATED WITH THE CONVENTION

RESOLUTION ESTABLISHING THE PREPARATORY COMMISSION FOR THE ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS

The States signatories of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, adopted by the Conference on Disarmament At Geneva on 3 September 1992,

Having decided to take all necessary measures to ensure the rapid and effective establishment of the future Organization for the Prohibition of Chemical Weapons.

Having decided to this end to establish a Preparatory Commission.

1. Approve the Text on the Establishment of a Preparatory Commission, as annexed to the present resolution;

2. Request the Secretary-General, in accordance with paragraph 5 of resolution A/RES/47/39, adopted by the General Assembly on 30 November 1992, on the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, to provide the services required to initiate the work of the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons.

TEXT ON THE ESTABLISHMENT OF A PREPARATORY COMMISSION

1. There is hereby established the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons (hereinafter referred to as "the Commission") for the purpose of carrying out the necessary preparations for the effective implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, and for preparing for the first session of the Conference of the States Parties to that Convention.

2. The Secretary-General of the United Nations shall convene the Commission for its first session at The Hague, Kingdom of the Netherlands, not later than 30 days after the Convention has been signed by 50 States.

3. The Seat of the Commission shall be The Hague, Kingdom of the Netherlands.

4. The Commission shall be composed of all States which sign the Convention. Each signatory State shall have one representative in the Commission, who may be accompanied by alternates and advisers.

5. The expenses of the Commission, including those of the provisional Technical Secretariat, shall be met by the States signatories to the Convention, participating in the Commission, in accordance with the United Nations scale of assessment, adjusted to take into account differences between the United Nations membership and the participation of States signatories in the Commission and timing of signature. The Commission and the provisional Technical Secretariat may also benefit from voluntary contributions.

6. All decisions of the Commission should be taken by consensus. If, notwithstanding the efforts of representatives to achieve consensus, an issue comes up for voting, the Chairman of the Commission shall defer the vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Commission before the end of the period. If consensus is not possible at the end of 24 hours, the Commission shall take decision on questions of procedure by a simple majority of the members present and voting. Decisions on matters of substance shall be taken by two-thirds majority of the members present and voting. When the issue arises as to whether the question is one of substance or not, that question shall be treated as

a matter of substance unless otherwise decided by the Commission by the majority required for decisions on matters of substance.

7. The Commission shall have such legal capacity as necessary for the exercise of its functions and the fulfillment of its purposes.

8. The Commission shall:

(a) Elect its Chairman and other officers, adopt its rules of procedure, meet as often as necessary and establish such committees as it deems useful;

(b) Appoint its Executive Secretary;

(c) Establish a provisional Technical Secretariat to assist the Commission in its activity and to exercise such functions as the Commission may determine, and appoint the necessary staff in charge of preparatory work concerning the main activities to be carried out by the Technical Secretariat to be established by the Convention. Only nationals of signatory States shall be appointed to the provisional Technical Secretariat;

(d) Establish administrative and financial regulations in respect of its own expenditure and accounts.

9. The Commission shall make arrangements for the first session of the Conference of the States Parties, including the preparation of a draft agenda and draft rules of procedure.

10. The Commission shall undertake, inter alia, the following tasks concerning the organization and work of the Technical Secretariat and requiring immediate attention after entry into force of the Convention:

(a) Elaboration of a detailed staffing pattern of the Technical Secretariat, including decision-making flow charts;

(b) Assessments of personnel requirements;

(c) Staff rules for recruitment and service conditions;

(d) Recruitment and training of technical personnel and support staff;

(e) Organization of office and administrative services;

(f) Preparation of administrative and financial regulations;

(g) Purchase and standardization of equipment.

11. The Commission shall undertake, inter alia, the following tasks on matters of the organization requiring immediate attention after the entry into force of the Convention:

(a) Preparation of programme of work and budget of the first year of activities of the Organization;

(b) Preparation of detailed budgetary provisions for the Organization taking into account that the budget shall comprise two separate chapters, one relating to administrative and other costs, and one relating to verification costs;

(c) Preparation of the scale of financial contributions to the Organization;

(d) Preparation of administrative and financial regulations for the Organization providing for inter alia:

(i) Proper financial control and accounting by the Organization;

(ii) Preparation and approval of periodic financial statements by the Organization;

(iii) Independent audit of the Organization's financial statements;

(iv) Annual presentation of the audited financial statements to a regular session of the Conference of the States Parties for formal acceptance;

(e) Development of arrangements to facilitate the election of 20 members for a term of one year for the first election of the Executive Council.

12. The Commission shall develop, inter alia, the following draft agreements, provisions and guidelines for consideration and approval by the Conference of the States Parties pursuant to Article VIII, paragraph 21 (i) of the Convention:

(a) Guidelines on detailed procedures for verification and for the conduct of inspections, in accordance with, inter alia, Part II, paragraph 42, of the Verification Annex;

(b) Lists of items to be stockpiled for emergency and humanitarian assistance in accordance with Article VIII, paragraph 39 (b);

(c) Agreements between the Organization and the States Parties in accordance with Article VIII, paragraph 50;

(d) Procedures for the provision of information by States Parties on their programmes related to protective purposes, in accordance with Article X, paragraph 4;

(e) A list of approved equipment, in accordance with Part II, paragraph 27, of the Verification Annex;

(f) Procedures for the inspection of equipment, in accordance with Part II, paragraph 29, of the Verification Annex;

(g) Procedures concerning the implementation of safety requirements for activities of inspectors and inspection assistants, in accordance with Part II, paragraph 43, of the Verification Annex;

(h) Procedures for inclusion in the inspection manual concerning the security, integrity and preservation of samples and for ensuring the protection of the confidentiality of samples transferred for analysis off-site, in accordance with Part II, paragraph 56, of the Verification Annex;

(i) Models for facility agreements in accordance with Part III, paragraph 8, of the Verification Annex;

(j) Appropriate detailed procedures to implement Part III, paragraphs 11 and 12 of the Verification Annex, in accordance with paragraph 13 of that Part;

(k) Deadlines for submission of the information specified in Part IV (A), paragraphs 30 to 32 of the Verification Annex, in accordance with paragraph 34 of that Part;

(l) Recommendations for determining the frequency of systematic on-site inspection of storage facilities, in accordance with Part IV (A), paragraph 44, of the Verification Annex;

(m) Recommendations for guidelines for transitional verification arrangements, in accordance with Part IV (A), paragraph 51, of the Verification Annex;

(n) Guidelines to determine the usability of chemical weapons produced between 1925 and 1946, in accordance with Part IV (B), paragraph 5, of the Verification Annex;

(o) Guidelines for determining the frequency of systematic on-site inspections of chemical weapons production facilities, in

accordance with Part V, paragraph 54, of the Verification Annex;

(p) Criteria for toxicity, corrosiveness and, if applicable, other technical factors, in accordance with Part V, paragraph 71 (b), of the Verification Annex;

(q) Guidelines to assess the risk to the object and purpose of the Convention posed by the relevant chemicals, the characteristics of the facility and the nature of the activities carried out there, in accordance with Part VI, paragraph 23, of the Verification Annex;

(r) Models for facility agreements covering detailed inspection procedures, in accordance with Part VI, paragraph 27, of the Verification Annex;

(s) Guidelines to assess the risk to the object and purpose of the Convention posed by the quantities of chemicals produced, the characteristics of the facility and the nature of the activities carried out there, in accordance with Part VI, paragraph 30, of the Verification Annex;

(t) Guidelines for provisions regarding scheduled chemicals in low concentrations, including in mixtures, in accordance with Part VII, paragraph 5, and Part VIII, paragraph 5, of the Verification Annex;

(u) Guidelines for procedures on the release of classified information by the Organization, in accordance with paragraph 2 (c) (iii) of the Confidentiality Annex;

(v) A classification system for levels of sensitivity of confidential data and documents, taking into account relevant work undertaken in the preparation of the Convention, in accordance with paragraph 2 (d) of the Confidentiality Annex;

(w) Recommendations for procedures to be followed in case of breaches or alleged breaches of confidentiality, in accordance with paragraph 18 of the Confidentiality Annex.

13. Pursuant to Article VIII, paragraph 50, of the Convention, the Commission shall develop the Headquarters Agreement with the Host Country, based, inter alia, on the privileges, immunities and practical arrangements as specified in Annex 2 to this text.

14. The Commission shall:

(a) Facilitate the exchange of information between signatory States concerning legal and administrative measures for the implementation of the Convention and, if requested, give advice to signatory States on these matters;

(b) Prepare such studies, reports and records as it deems necessary.

15. The Commission shall prepare a final report on all matters within its mandate for the first session of the Conference of the States Parties and the first meeting of the Executive Council.

16. The property, functions and recommendations of the Commission shall be transferred to the Organization at the first session of the Conference of the States Parties. The Commission shall make recommendations to the Conference of the States Parties on this matter.

17. The Commission shall remain in existence until the conclusion of the first session of the Conference of the States Parties.

18. The Host Country undertakes to accord the Commission, its staff, as well as the delegates of signatory States such legal status, privileges and immunities as are necessary for the independent exercise of their functions in connection with the Commission and the fulfillment of its object and purpose, as outlined in Annex 1 to this text.

ANNEX 1

PRIVILEGES, IMMUNITIES AND PRACTICAL ARRANGEMENTS IN CONNECTION WITH THE HOSTING OF THE PREPARATORY COMMISSION

1. The Government of the Netherlands is prepared to grant to the delegates to the Preparatory Commission, who have been notified as such by the sending State, and who reside in The Hague, privileges and immunities similar to those granted by the Government of the Netherlands to diplomats of comparable rank of diplomatic missions accredited to the Netherlands.

2. The Government of the Netherlands is prepared to apply Article V of the Convention on the Privileges and Immunities of the Specialized Agencies of 21 November 1947 to nonresiding delegates to the Preparatory Commission while exercising their function and during their journeys to and from the place of meeting.

3. The Government of the Netherlands is prepared to grant to the Executive Secretary and staff members of the Preparatory Commission privileges and immunities similar to those which the Government of the Netherlands has undertaken to grant to the Director-General and staff members of the Organization for the Prohibition of Chemical Weapons, as set out under Annex 3, "Privileges and Immunities", points 1, 2, and 3, "Social Security", point 13, and "Employment", points 14 and 15.

4. It is understood that the above will be elaborated in an agreement to be concluded with the Government of the Netherlands.

5. The practical arrangements for the hosting for the Preparatory Commission shall be based on the information submitted and commitments undertaken by the Netherlands and by the City of The Hague as contained in Annex 3 on the Netherlands bid, under "Building and Equipment".

ANNEX 2

PRIVILEGES, IMMUNITIES AND PRACTICAL ARRANGEMENTS TO BE LAID DOWN IN THE HEADQUARTERS AGREEMENT

1. The Headquarters Agreement between the Organization and the Netherlands, where the seat of the Organization is located, shall be based on the information submitted and commitments undertaken by the Netherlands and by the City of The Hague as contained in Annex 3 on the Netherlands bid.

2. In order to ensure the effective functioning of the Organization, the privileges and immunities to be laid down in the Headquarters Agreement shall be in conformity with the regime of the Convention on the Privileges and Immunities of the Specialized Agencies of 21 November 1947 (United Nations General Assembly Resolution 179/II).

3. In order to ensure the effective functioning of the Organization, the Headquarters Agreement shall also include provisions for:

3.1 the granting to Heads of Delegations to the Organization of ambassadorial rank the title of Permanent Representative and the privileges and immunities to which Ambassadors to the Netherlands are entitled;

3.2 the establishment of a tax-free commissary for the officials of the Organization entitled to duty free privileges;

3.3 the exemption from tax on or in respect of salaries and emoluments paid by the Organization; the Host Country shall not take into account the salaries and emoluments thus exempted when assessing the amount of tax to be applied to income from other sources.

ANNEX 3

INFORMATION SUBMITTED AND COMMITMENTS UNDERTAKEN BY THE NETHERLANDS AND BY THE CITY OF THE HAGUE

The following information is given and commitments are undertaken by the Netherlands and by the City of The Hague with respect to arrangements for the hosting of the Preparatory Commission as well as for the Headquarters Agreement. These are reflected in:

The Annex to Paper No. 1 of 28 April 1992 of the "Friend of the Chair on the Seat of the Organization";

The Bidbook of 18 May 1992 presented by the Netherlands;

The statement of 2 June 1992, made by Mr. Martini, Acting Burgomaster of The Hague, to the Ad Hoc Committee on Chemical Weapons;

The statement of 2 June 1992 made by Mr. M. van Zelm, Programme Director of the Prins Maurits Laboratory, to the Ad Hoc Committee on Chemical Weapons.

These documents are filed with the Secretariat of the Conference on Disarmament in Geneva.

Other aspects may be included in the Headquarters Agreement by mutual agreement.

Privileges and Immunities

1. Full diplomatic privileges will be granted to those staff members of the Organization and their dependents who qualify under the relevant provisions of the Agreement. Pursuant to Annex 1, the Netherlands is prepared to extend diplomatic privileges to personnel with ranks comparable to P–5 and above in conformity with the regime of the Convention on the Privileges and Immunities of the Specialized Agencies of 21 November 1947 (United Nations General Assembly Resolution 179/II).

2. Other staff members will enjoy:

(a) immunity from legal proceedings of any kind with respect to words spoken or written and all acts performed by them in their official capacity;

(b) in any event, immunity shall not extend to a civil action by a third party for damage arising from an accident caused by a motor vehicle belonging to, driven by or operated on be-

half of a staff member or in respect of a traffic offense involving such a vehicle;

(c) inviolability of all their official papers and documents;

(d) immunity from inspection of official baggage;

(e) exemption from Netherlands income tax on salaries and emoluments paid to them by the Organization.

Moreover, staff members who do not have the Dutch nationality will:

(f) enjoy exemption with respect to themselves and members of their families who are part of their households from all measures restricting entry and alien registration. Any visas which may be required shall be issued without charge as promptly as possible;

(g) be given the same repatriation facilities in the time of international crisis as officials of diplomatic missions, together with members of their families who form part of their households;

(h) not require a work permit for their official duties with the Organization;

(i) in accordance with the regulations in force, have relief from import duties and taxes, except payments for services, in respect of their furniture and personal effects and the right to export furniture and personal effects with relief from duty on termination of their duties in the Netherlands. Personal effects may include a reasonable number of cars that have been in use in the household and are older than six months.

3. In addition, persons who have lived outside the Netherlands for at least 12 months before taking up a position with the Organization will be allowed to import one motor vehicle tax-free. The vehicle should be imported within 12 months after they take up their position and can be sold tax-free after 12 months.

4. Pursuant to Annex 2, the Netherlands is furthermore prepared to grant to the Heads of Delegation with ambassadorial rank, accredited to the Organization for the Prohibition of Chemical Weapons, the title of Permanent Representatives and the privileges and immunities to which Ambassadors to the Netherlands are entitled.

Building and equipment

5. An office building of 3,300 square meters will be supplied free of charge during the preparatory phase (maximum of five years). The building is located at the center of The Hague near the Peace Palace and several embassies. The Netherlands Congress Center is 1 km away. The modern office building was built in 1986 and consists of 3,300 square meters of office space divided over five floors. Office space can be made available immediately as soon as the Organization begins working in The Hague. The building offers sufficient flexibility to allow the Organization to grow in stages up to a maximum of 200 people. The Hague and the Netherlands will pay for the rent of the office space, parking places for the Organization, maintenance costs of the building and the installations energy costs (heating, cooling, electricity, water) and turnkey costs (carpeting, partitioning) during the preparatory phase.

6. Before the full implementation phase, office space with a maximum of 18,000 square meters is foreseen to be made available for

the Organization in a new purpose-built office building, to be known as the "Peace Tower". Construction can be started as soon as the Organization can specify the required volume and further details. The building is expected to be completed two and a half years later. The Tower will be situated in the city center business district next to Central Station.

For a period of 3 years during the full implementation phase, The Hague and the Netherlands will pay for the rent of the office space, 110 parking places for the Organization inside the building, maintenance costs of the building and the installations, energy costs (heating, cooling, electricity, water) and turnkey costs (carpeting, partitioning).

The building is flexible enough to allow space to be made available to the Organization in proportion to the number of staff, up to a maximum of 18,000 square meters. After the period in which the Netherlands Government will pay for the office space as described above, office space can be leased by the Organization at a guaranteed price of US$ 250 per square meter (indexed on the basis of the 1992 price level, basic rent).

If required expansion needs of the Organization are known before the end of 1993, the building can be expanded to a maximum of 22,000 square meters. This expansion can be leased by the Organization at a guaranteed price of US$ 250 per square meter (indexed on the basis of 1992 price levels, basic rent).

7. When needed, a conference room for approximately 170 delegations will be made available, free of charge, during the maximum eight year period of the Netherlands bid at the nearby Peace Palace or Netherlands Congress Center.

8. Subject to the promise that all office supplies, service contracts and other office materials for which the Organization will pay, shall be purchased at the normal going rates from a supplier designated by The Hague, the Netherlands offer during the preparatory phase (maximum of five years) includes:

Providing all necessary office furniture according to official European standards, free of charge;

Providing all the reasonably necessary office equipment, free of charge;

During the preparatory phase (maximum of five years) the Netherlands offer also includes:

Providing a fully integrated digital telephone switchboard, telephones on every desk and 10 fax machines free of charge.

9. After the preparatory phase during a period of three years office furniture (according to official European standards) and reasonably necessary office equipment will be supplied free of charge on a one-time basis, provided that all office supplies, service contracts and other office materials for which the Organization will pay, shall be purchased at the normal going rates from a supplier designated by The Hague.

Laboratory/training

10. The Prins Maurits Laboratory (PML) of the Netherlands Organization for Applied Scientific Research (TNO), a fully independent not-for-profit research organization, will grant the Organization access to its database with analytical chemical data, free of charge.

This database contains spectrometric and chromatographic data of a large number of compounds relevant to the Convention.

11. PML is also prepared to provide a technical training programme for 100–150 candidate inspectors of the future Organization drawn from developing countries mainly. The training programme will be free of charge for the participants.

12. Finally PML, if needed in cooperation with other TNO institutes, could carry out a number of technical functions of the Organization, such as analyses of samples, development of analytical chemical methods, synthesis of reference compounds, calibration and development of verification equipment, advice on and development of detection and protection equipment, sampling equipment, seals and markers, etc., at a price determined by the integral costs of its activities.

Social security

13. If the Organization establishes its own social security system with comparable coverage to Dutch schemes, the Netherlands Government will exempt the Organization, its Director and staff members/personnel from compulsory insurance under national social security schemes. The exemption rules will be laid down in the Headquarters Agreement. For persons who are not exempt, compulsory insurance schemes will apply and the Organization will be responsible for paying contributions.

Employment

14. Non-Dutch employees of international organizations in the Netherlands who do not carry diplomatic status, will be—as a matter of routine—granted work and residence permits for the duration of their employment in the Netherlands.

15. Family members of persons working at the Organization who have the nationality of one of the member States of the European Community may take up employment in the Netherlands. Members of the family who do not have the nationality of one of the member States of the European Community may take up employment subject to the requirements of the labor market.

General conditions relating to the Netherlands bid

16. The Dutch bid applies if the Organization is to remain in The Hague throughout its existence.

17. Property, furniture, equipment and other items that are made available will remain the property of the supplier and/or the Netherlands.

VIII. MAJORITY VIEWS

	Page
I. Background	163
A. Historical background	164
B. Recent developments	165
II. The Chemical Weapons Threat	167
A. Description	167
B. Delivery	167
C. Destructive effects	168
D. Utility	168
E. Proliferant countries	169
F. Implications of proliferation	170
G. Purpose and provisions of the Chemical Weapons Convention	171
III. Issues Considered in Resolution of Ratification	173
A. Verification and implementation issues	173
1. Verifiability	173
2. Universality and effectiveness	179
3. Costs	182
4. Enforcement/sanctions	184
5. Destruction of stockpiles	185
6. "Rogue" inspectors	190
7. Chemical Weapons Convention funding	191
8. Chemical Weapons Convention costs	192
9. The Chemical Weapons Convention preparatory commission	192
10. The Organization for the Prohibition of Chemical Weapons	194
B. Security and Military Implications	194
1. Retaliatory capability	194
2. Deterrence	196
3. Defenses	197
4. Riot control agents	198
5. Russia and cheating	200
6. Non-lethal weapons development	207
7. Protecting national security information	208
8. The impact on anti-terrorism efforts	209
C. Commercial considerations	211
1. Constitutional issues	211
2. U.S. industry and the CWC	214
3. Repercussions on U.S. industry if the U.S. does not ratify the CWC	219
D. Popular misconceptions of the CWC	220
IV. Conclusions	224
A. Bipartisan support	224
B. Summary	225
C. Continuing concerns	227
D. Judgment	228
V. Appendices	229
Letter of support from George Bush	229
Letters of support from the chemical industry:	
1. The Chemical Manufacturers Association (CMA)	230
2. The Synthetic Organic Chemical Manufacturers Association (SOCMA)	235
3. The Pharmaceutical Research and Manufacturers of America (PhRMA)	235
4. The Biotechnology Industry Organization (BIO)	236
5. The American Chemical Society (ACS)	237
6. 53 senior chemical industry executives	238

1. Background

Several developments in recent years have led to an increased concern over the proliferation of weapons of mass destruction. Economic and technological development around the world has led to a greater diffusion of the technology needed to produce such weapons. Meanwhile, the end of the cold war has been followed by the reemergence of regional conflicts, in which weapons of mass destruction are most likely to be used if available. The breakup of the Soviet Union has spawned new states with advanced unconventional weapons capabilities. Accordingly, the Clinton administration has stated repeatedly that nonproliferation is one of the primary objectives of its foreign policy.

Some 20 nations are now suspected of having chemical weapons or developing a chemical weapons capability. Among these states are Iraq, Syria, North Korea, and Libya—countries not known for their restraint. Chemical weapons have been termed the "poor man's nuclear bomb" because they can be manufactured cheaply from chemicals that, although they are in many cases controlled, are nevertheless available for commercial purposes. And now, the dangers from chemical weapons are aggravated by the production and potential proliferation of ballistic missiles that can hurl a CW warhead hundreds of miles. Moreover, unlike the nuclear threshold, the chemical weapons threshold has proved all too easy to cross.

In the twentieth century, nuclear weapons have been used but once, when they were employed to end the Pacific war. During this same time, however, nations repeatedly have unleashed chemical weapons to achieve their military or political goals. Soldiers on both sides, including U.S. troops, were gassed in World War I. Chemical weapons were used in Ethiopia in the 1930's, in Manchuria in the 1940's, and in Yemen in the 1960's. During the Iran/Iraq war, chemical attacks became commonplace. Saddam Hussein dropped chemical bombs on the Kurds in order to suppress their rebellion in 1989. As recently as the Persian Gulf war, our own troops faced a potential chemical weapons threat from Iraq.

It is important to note that two-thirds of the some 20 countries identified as having chemical weapons or developing a chemical weapons capability have signed the CWC. The United States wants those nations to ratify it as well, and ultimately to attain universal adherence to the Convention.

The Chemical Weapons Convention represents the most far-reaching multilateral chemical weapons regime in history. Since it was opened for signature in January 1993, 160 countries, including the United States, have signed the agreement, and 50, as of April 1996, have ratified it. The Convention bans for the first time the development, production, and possession of chemical weapons, and reinforces the international norm against the use of such weapons. The Convention enters into force 180 days after the 65th country has ratified it, allowing parties time to enact implementing legislation and for the Preparatory Commission to conclude detailed implementation procedures. As of this writing in August 1996, more than 60 had already ratified. President Clinton transmitted the Convention to the U.S. Senate on November 23, 1993, for its con-

sent to ratification. The Convention was then referred to the Senate Foreign Relations Committee.

A. HISTORICAL BACKGROUND

In 1925, at the Geneva Conference for the Supervision of the International Traffic in Arms, the United States proposed a prohibition on the export of gases for use in war and the French proposed a ban on the use of poisonous gas in war. At Poland's suggestion, the prohibition was extended to bacteriological weapons. The Geneva Protocol was the result. It bans the use in war (thus avoiding prohibiting a country's internal use, as in the instance of Iraqi gassing of Kurds) of chemical and biological weapons, but not the production, stockpiling, or transfer of such weapons. The Committee on Foreign Relations favorably reported the treaty in 1926, but the Senate did not act on it in that period.

In the post-World War II period, there were a number of discussions of the possibility of multilateral chemical and biological weapons bans, but no significant progress was made until the late 1960's. In 1969, President Nixon announced that he would resubmit the protocol to the Senate. He reaffirmed U.S. renunciation of first use of lethal chemical weapons, as well as incapacitating chemicals.

In 1970, the President resubmitted the protocol with a reservation that the United States could retaliate with chemical weapons in the event that it was attacked by such weapons. He also declared that the protocol would not apply to the use in war of riot-control agents and herbicides. The Committee on Foreign Relations disagreed with the narrow coverage and deferred action. In 1971, the Soviets accepted the U.S. view that a ban on biological weapons presented less intractable problems and should not be held up awaiting agreement in the Conference on Disarmament on a chemical weapons ban. As a result, the Biological and Toxin Weapons Convention was negotiated quickly, opened for signature and submitted to the Senate in 1972. The Senate Foreign Relations Committee deferred action pending resolution of the U.S. commitment under the Geneva Protocol.

In 1974, the Ford administration reopened the issue with the committee, and Dr. Fred Ikle, the Director of the Arms Control and Disarmament Agency said that the President, while reaffirming the scope of the Geneva Protocol, was prepared "to renounce as a matter of national policy: (1) first use of herbicides in war except use, under regulations applicable to their domestic use, for control of vegetation within U.S. bases and installations or around their immediate defensive perimeters; and (2) first use of riot-control agents in war except in defensive military modes to save lives * * *." Moreover, Dr. Ikle testified, "The President, under an earlier directive still in force, must approve in advance any use of riot-control agents and chemical herbicides in war." With that and related understandings, the Senate Foreign Relations Committee voted unanimously 2 days later to report the Convention and the protocol favorably. Four days later, the Senate approved the protocol and the Convention unanimously.

B. RECENT DEVELOPMENTS

In recent years, the issue of chemical weapons proliferation has gained more immediacy as a result of a number of allegations of chemical and biological weapons use. The United States used riot-control agents and herbicides in Vietnam, but denied charges it had used lethal chemicals or biological agents. In the mid 1960's, Egypt was accused of using chemical weapons with Soviet help in the Yemeni civil war. North Vietnam was accused of using chemical weapons and toxins in Laos and Cambodia. The Ethiopian government was suspected of using chemicals against rebels in 1980. The United States charged that the Soviets used chemical weapons and toxins in Afghanistan.

The event which provoked the sharpest response from the international community, and from the U.S. Congress, was Iraq's repeated use of chemical weapons in the Iran-Iraq war, which led to Iranian retaliation with chemical weapons, subsequently Iraq callously used poison gas against its own Kurdish citizens in 1988. Congress responded by passing the Pell-Helms Chemical and Biological Weapons Control and Warfare Elimination Act, which imposed sanctions on nations using chemical weapons and against companies aiding the chemical weapons programs in certain countries. President Bush vetoed the legislation in 1990, however, because it did not allow a Presidential waiver of sanctions. The Bush administration subsequently established controls and sanctions by Executive order, but with complete leeway on waivers of penalties. The legislation was modified to permit a Presidential waiver of sanctions against countries using chemical weapons, but with a congressional right to override the waiver specified with executive branch support, passed again by Congress and became law in 1991.

Meanwhile, progress has been made in recent years on the multilateral front, especially since the end of the cold war, which has led to greater opportunities for international cooperation on nonproliferation issues. In 1984, Vice President Bush introduced at the Conference on Disarmament in Geneva a draft treaty calling for a comprehensive chemical weapons ban with extensive verification procedures. In the following years, substantial progress was made on a number of key issues, and there was early agreement in principle on the basic approach a ban would take. The Reagan administration had favored very strict "anytime, anywhere" verification procedures. Some believed that this U.S. demand could scuttle prospects for agreement, but a breakthrough came when the Soviet side did an about face and essentially decided to accept "anytime, anywhere" inspections.

The late 1980's saw a slowdown in progress on an international chemical weapons agreement, as states debated the extensive verification procedures proposed by the United States. Also, many nations opposed a U.S.-Soviet formulation whereby those two countries could keep 500 tons of chemical weapons for at least another 8 years, pending an assessment of states' participation in the Convention.

The experience of the gulf war, in which the United States faced the possibility of chemical weapons attack, apparently precipitated a change in the Bush administration's thinking on the matter. The

United States decided that it would not use chemical weapons even if Iraq did so, but made it clear that any Iraqi use of chemical weapons would bring an overwhelming and devastating response. Subsequently, the executive branch determined that the value of a chemical weapons ban outweighed the utility of a chemical capability in the remote eventuality that conventional forces could not adequately retaliate against a chemical attack. Thus, the United States decided that in the context of a multilateral convention, it would be willing to abide by a total chemical weapons ban even if other countries did not initially adhere to such a global ban and maintained chemical weapons stockpiles and programs. This development led to accelerated progress in multilateral talks.

In September 1989, the United States and Soviet Union signed a memorandum of understanding in Jackson Hole, Wyoming, for a Bilateral Verification Experiment and Data Exchange Related to the Prohibition of Chemical Weapons. Known as the Wyoming MOU, the 1989 agreement provided for activities in two phases:

Phase I of the MOU obligated the Parties to provide general data on their chemical weapons capabilities and provides for a series of visits to relevant military and civilian facilities.

Phase II of the MOU obligated the Parties to provide detailed data on their chemical weapons capabilities and to permit on-site inspections of relevant military and civilian facilities to verify the accuracy of data declarations.

The stated purpose of the Wyoming MOU when it was signed by the U.S. and the Soviet Union in 1989 was to build confidence in each country's commitment to banning chemical weapons capabilities and thus facilitates completion of the multilateral Chemical Weapons Convention.

The multilateral talks subsequently were moved forward by another U.S.-Soviet/Russian chemical weapons agreement. In June 1990 Presidents Bush and Gorbachev signed a bilateral Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons. This agreement:

banned the production of chemical weapons agents;

required a reduction in chemical weapons stocks to 5000 tons by 2002, necessitating cuts of 83% in U.S. stocks and 90% in Russian stocks;

provided for on-site inspections of storage, destruction and production facilities, combined with data declarations.

On January 13, 1993, The Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, known as the Chemical Weapons Convention, was opened for signature. The Convention went far beyond the bilateral agreement by requiring all parties to destroy all chemical stocks over a 10-year period.

In March 1993, the United States and Russian delegations agreed *ad referendum* on detailed implementing procedures and updated provisions to finalize the Bilateral Destruction Agreement. Russia has yet to agree formally to these detailed procedures and provisions, however, citing problems with the provisions on conversion of former chemical weapons production facilities to peaceful uses and with the costs of stockpile destruction.

The administration maintains that the delay in reaching final agreement on all provisions of the Bilateral Destruction Agreement should not delay the Senate's ratification of the Chemical Weapons Convention. All provisions of the Bilateral Destruction Agreement are consistent with the Convention. In effect, the bilateral agreement has fostered useful technical exchanges and will continue to do so. Many of the provisions in the Convention with regard to the destruction of weapons will complement those of the bilateral agreement.

II. The Chemical Weapons Threat

A. DESCRIPTION

Three types of weapons are grouped under the term "weapons of mass destruction": nuclear weapons, biological weapons, and chemical weapons. They are given special attention because they are capable of killing and injuring more people at one time than conventional weapons can. Many chemical weapons can also cause suffering long after they are introduced. Moreover, weapons of mass destruction are primarily designed for use against civilian populations, making them potentially psychologically devastating weapons of terror.

B. DELIVERY

Several methods have been used for deploying and delivering chemical weapons, which were first used extensively during World War I. Such methods include releasing airborne gaseous agents from ground-based tanks; artillery shells; mortar shells; aerial spray tanks; chemical warheads for short-range ballistic missiles; rockets; land mines; and bombs. However, chemical weapons do not require sophisticated military delivery systems. Indeed, a human agent can introduce chemical weapons against a target.

The three principal types of advanced delivery vehicles are aircraft, ballistic missiles and cruise missiles. The now defunct Office of Technology Assessment reported in *Proliferation of Weapons of Mass Destruction, Assessing the Risks,* August 1993, that, "though few proliferant states have—or are likely soon to acquire—military delivery systems capable of reaching the United States, unconventional delivery methods could still put U.S. territory at risk. U.S. allies abroad or deployed U.S. forces are already threatened by shorter range systems."

Efforts at controlling the proliferation of chemical weapons must be accompanied by controls on the means used to deliver such weapons. Most proliferant states have or are in the process of developing ballistic missile and/or advanced aircraft capabilities which could be used to deliver unconventional weapons. While short-range delivery systems remain a problem, the Office of Technical Assessment suggested that, "because advanced systems * * * are in many cases technically more demanding, there is greater hope * * * of imposing international controls on their further proliferation."

C. DESTRUCTIVE EFFECTS

Chemical weapons are designed to kill or incapacitate enemy personnel by causing such effects as skin blistering, blindness, lung damage, choking, nervous system disruption, paralysis, or oxygen starvation. The destructive effects of chemical weapons are highly variable and generally less lethal than those of other unconventional weapons. The Office of Technology Assessment reports that, "because they are so dependent on weather and the degree of defensive protection, the consequences of chemical and biological weapons are much less predictable than those of nuclear weapons." Such forms of protection as gas masks, clothing and shelters can greatly reduce the effectiveness of chemical weapons.

In addition, the Office of Technology Assessment concluded, "chemical weapons must be delivered in great quantities to approach the potential lethality of nuclear and biological weapons; against well-protected troops or civilians, they will be less lethal than even conventional explosives." For example, the ratio of deaths to injuries from chemical attacks seems to have been low in conflicts beginning with World War I and extending through the Iran-Iraq War.

D. UTILITY

While there are major political and military constraints that may severely restrict the willingness to use chemical weapons (indeed, cases have been relatively rare in history), chemical weapons have several military and terroristic uses.

On a purely military level, chemical weapons can be used to kill or injure enemy troops. They may also force the enemy to take measures, such as troop dispersal or decontamination efforts, or donning of protective gear, to protect against the harmful effects of the weapons, thereby reducing the combat effectiveness of the enemy forces. In addition, the use of chemical weapons may overburden an enemy's medical services.

Just as chemical weapons can be used to undermine military morale, so can they be used to terrorize entire populations. Indeed, historical uses of such weapons have been against civilians. The Office of Technology Assessment reported that, "Medium- to large-scale attacks with chemical weapons (e.g. tens of tons) on civilians may kill many more unprotected people (e.g. thousands) than would equivalent amounts of high explosives." The 1995 sarin gas attacks in Tokyo, provides an excellent case in point. Although only small amounts of chemicals were used and a relatively small number of persons were killed or injured, it does not take an active imagination to surmise the amount of damage and deaths which could have been caused if the religious cult responsible had enlarged the scope of their attack.

There are certain drawbacks or limitations to the use of chemical weapons. Perhaps most importantly, a chemical attack does not damage or destroy economic infrastructure or military facilities, although contamination of a certain area may slow down industrial activity temporarily. This, of course, is not necessarily a disadvantage for a force that intends to occupy the attacked territory, although, persistent agents may contaminate ground that the user

wishes to cross or occupy. A chemical attack is more likely to be successful if it is used against a static force versus a mobile force and is used in large quantities. As mentioned earlier, chemical weapons can also be defended against fairly easily. Last, high winds may blow chemicals back onto the user's forces.

E. PROLIFERANT COUNTRIES

Since the end of World War II, only three countries—the United States, Russia and Iraq—have admitted having chemical weapons. The Office of Technology Assessment cited eleven countries which have been widely reported in the press as having undeclared chemical weapons capabilities: Egypt, Iran, Iraq, Israel, Libya, Syria, China, North Korea, Taiwan, Myanmar (Burma) and Vietnam. Others which have been mentioned in more than one report include Pakistan, South Korea, India, Ethiopia, Indonesia, Chile, Afghanistan, Thailand, South Africa, Laos and Brazil. (This list is not a list of known proliferants, but merely of nations reported in the press as suspected of developing chemical weapons.)

While chemical weapons are much easier to develop than nuclear arms, many countries capable of producing chemical weapons are not suspected of having done so. Those countries which are suspected, however, are largely concentrated in three regions marked by international rivalries: the Middle East, South Asia, and East Asia. Thus, the Office of Technology Assessment concluded: "on the one hand, proliferation is still limited enough to encourage hope that it can be contained. On the other hand, it is occurring in places where political conflicts pose a major complication to nonproliferation efforts."

Many of the countries widely reported as possessing some chemical weapons capability also have Scud-range or better ballistic missiles, including Iran, Iraq, Egypt, Syria, Libya, Israel, North Korea, and China. In addition, all of these nations, as well as Vietnam and Taiwan have fighter-bomber aircraft, most with ranges of 1,000 km or more and payloads of at least 3,000 kg. There have also been several publicly reported programs among proliferant countries to produce cruise missiles, which also could be used for delivering unconventional weapons.

These proliferant countries are unlikely to threaten the United States directly in the near future, however. According to the Office of Technology Assessment report: "Those emerging missile powers that might have the intent to strike at the United States (e.g. Iran, Iraq, North Korea, Libya) will not be able to field long-range missiles or ICBMs over the next 10 years, and those that could develop the capability (e.g. Israel, India, Taiwan) are not likely to have the intent. It is therefore unlikely that any country (other than China and the former Soviet republics that already possess intercontinental ballistic missiles or ICBM's) would pose a direct ballistic missile threat to the United States within the next 10 years."

Some critics argue that the United States should not ratify the CWC for it cannot guarantee that states it is most concerned about will join as well. We disagree, the United States has already decided to eliminate a large part of its chemical arsenal. Congress has directed the Department of Defense to destroy unitary chemical weapons stockpiles and to plan to destroy all other chemical

weapons material that is banned by the CWC. As the United States unilaterally dismantles its chemical weapons, it makes sense to seek the destruction of other countries' chemical weapons as well. The Convention imposes binding obligations on all parties to do what the United States has already begun to do. So the Convention has great value even if a few radical states do not join at the outset.

Second, the United States is convinced that the answer to the use of chemical weapons must not be retaliation in kind, but rather a full range of defensive measures—such as filtering systems for tanks and lightweight anti-chemical weapons gear—coupled with a strong deterrent. The Persian Gulf War provided a convincing, real-life demonstration that the United States military is highly capable of deterring or responding to a chemical weapons threat with superior conventional military force and strategy.

The U.S. Government has long recognized that it must maintain its defensive chemical weapons program as well as give assistance to countries that are threatened or attacked with chemical weapons. The CWC explicitly allows both these measures. Many countries view these provisions as a significant incentive to join the Convention. The United States has developed and will continue to develop defensive, protective measures that fully protect its military forces against all chemical weapons threats. Regardless of CWC ratification, the Administration and Congress have a responsibility to maintain a robust chemical weapons defense program.

Third, by establishing a global norm against chemical weapons, the Convention will give the United States and world community a more effective means of pressuring radical governments to abandon their CW capabilities. The CWC also contains specific provisions for penalizing countries that do not join. States remaining outside the Convention will be denied access to trade in specified chemicals that are important not only to CW production but also to industrial development and growth. These states will be viewed as pariahs and subjected to international pressure to abide by the Convention's global norm banning CW. Over time, the United States hopes that states will realize the high political and economic costs of remaining an outlaw and seek to become members.

F. IMPLICATIONS OF PROLIFERATION

The proliferation of chemical weapons has had, and would have serious negative consequences for the international community. Proliferation undermines international stability by generally increasing the visibility and increasing pressures for further proliferation among states fearful of potential attackers who possess chemical weapons. Nations facing chemical weapons may feel impelled to maintain a chemical arsenal to deter attacks or to retaliate if they fear their conventional forces are inadequate.

Proliferation can propel arms races, as the development of chemical weapons in one country leads its neighbors to develop their own capabilities in response. This has happened with regard to nuclear weapons, as India justifies its program by pointing to China, and Pakistan justifies its program by pointing to India. Also, the more countries which have chemical weapons, the more potential suppliers of chemical weapons technology there will be to still other na-

tions, whether through overt sales, covert sales or smuggling. Furthermore, each use of chemical weapons weakens the international psychological and political taboo against their use. It should also be noted that proliferation in one category of weapons of mass destruction could undermine the norms against proliferation of others.

Proliferation is dangerous even if chemical weapons are not used in war. Proliferation of chemical weapons increases the chances of a terrorist theft of such weapons. Political disintegration or secession could mean that weapons could fall into the hands of groups which are dangerous or poorly equipped to manage the weapons safely. Moreover, while chemical weapons are less costly than nuclear weapons, their development and deployment divert resources from other social or military programs. Last, production of chemical weapons increases the risk of inadvertent environmental contamination, especially in developing nations, which generally do not allocate scarce resources to environmental and health safeguards, as evidenced by the Iraqi chemical weapons program.

Violating the Convention will carry with it a demonstrable political price. In cases of serious violations, the CWC organization can recommend the imposition of collective sanctions on a country engaging in illicit chemical weapons activities. In cases of particular gravity, it must bring the matter to the attention of the United Nations General Assembly and Security Council. Finally individuals and corporations are also subject to the prohibitions of the Convention and can be prosecuted in national courts.

G. PURPOSE AND PROVISIONS OF THE CHEMICAL WEAPONS CONVENTION

The Chemical Weapons Convention is a major step beyond the Geneva Protocol of 1925, which only banned the use in war of chemical agents and, given the number of states who reserved the right to retaliate in kind, was in effect little more than a "no first use" of chemical weapons pledge. Under the agreement signatories must declare, subject to international confirmation: all chemical weapons, locations of chemical weapons facilities, details of transfers of chemical weapons and production equipment since 1946, and a detailed plan for destruction of existing weapons—all chemical weapons are to be completely eliminated within 10 years after the Convention's entry into force—all chemical weapons production must cease within 30 days of the entry into force—all chemical weapons production facilities must be eliminated (or converted to peaceful purposes, if permitted by the other State Parties).

In addition, the Convention forbids the use of riot control agents as methods of war and reaffirms the international law against the use of herbicides in war. It also provides for the possibility for protection and assistance in the event of a chemical weapons attack or threat of attack, for example through the provision of defensive equipment and supplies.

The Chemical Weapons Convention provisions are as detailed as possible to avoid ambiguities which could create problems in verifying adherence or determining compliance. The Preparatory Commission is in the process of elaborating further detailed guidelines

and provisions for declarations and inspections as well as other aspects of implementation.

The Chemical Weapons Convention provides for resolution of potential problems associated with the CWC by: (a) containing provisions for the resolution of disputes between States Parties or between States Parties and the Organization over the application or interpretation of the CWC; (b) defining procedures for the resolution of ambiguities that may arise in the course of inspections, and; (c) providing provisions for amendments or technical changes. Most importantly, the CWC operates on the principle that a State Party must take action in the event concerns are raised about its compliance. It is not up to the Organization or State Party raising the compliance concern to prove noncompliance. This puts the burden of proof on the suspected State Party to alleviate the noncompliance concerns of others and leaves it to States Parties to judge for themselves if that State Party has demonstrated its compliance.

During the negotiations, the United States proposed that reservations be permitted. However, it received no support for this position. The prohibition against imposing reservations against the Articles of the Convention is intended to prevent States Parties from undermining the basic obligations of the CWC and creating an unequal system of obligations as happened in the case of the Geneva Protocol. Reservations can be made to the Annexes of the CWC, as long as they are not incompatible with the object and purpose of the CWC.

Modifications to the CWC Articles and key provisions of the Annexes (protection of confidential information, challenge inspection and related definitions) may be made only through a formal amendment process requiring three conditions: support of a majority of States Parties, no State Party casting a negative vote, and ratification by all the supporting States Parties. The Administration has assured the Senate that the United States will be present at all amendment conferences and cast its vote, thus ensuring the opportunity for the Senate to consider any future amendment approved by the conference.

The United States and other negotiating countries recognized the need for possible technical and administrative changes to the Annexes, based on future technological development and practical experience. Thus, the CWC provides simplified procedures for making changes to the Annexes. These provisions were adapted from similar provisions found in other arms control and other agreements to which the United States is party, e.g., the Conventional Forces Europe.

To prepare for implementation of the Convention, the CWC Preparatory Commission began work in February 1993 in The Hague. The Preparatory Commission will operate until the Convention enters into force, after which its recommendations will be approved by the Conference of States Parties.

The Preparatory Commission has been tasked to develop very technical, detailed operating procedures. The Preparatory Commission participants understand that the Commission cannot revise the provisions of the Convention or develop procedures that undercut or change the basic provisions of the CWC. Therefore, the work of The Preparatory Commission will not substantially effect the

CWC treaty text for which the Administration is seeking Senate advice and consent; nor will the U.S. ability to verify compliance with the CWC be affected to any greater or lesser degree by the work of The Preparatory Commission than by the provisions of the CWC.

III. Issues Considered in Resolution of Ratification

The Committee on Foreign Relations, while considering the benefits of the Convention for the United States, was concerned with several potential problems. Critics from the private sector raised a number of troubling issues. Among the most often-heard criticisms of the Convention are the following: it is not completely verifiable but the verification provisions it does contain could harm national security and proprietary information interests; it is not universal; it will not rid the world of all dangerous chemicals; it will lead to a reduction in chemical weapon defenses; current uses of riot control agents will no longer be permitted; not having chemical weapons erodes deterrence, and the Convention limits the President's options in the case or threat of war; it will be too expensive; Russia's history of compliance on chemical and biological weapons issues is in doubt, and "loop-holes" in the Convention will allow Russia to develop new and dangerous chemicals; and it poses Constitutional problems for U.S. industry. Questions were also raised regarding enforcement, the costs and safety of baseline destruction of U.S. chemical weapons stockpiles, the ability of "rogue" inspectors to use the inspection process in order to learn how to hide non-compliance in their home countries from other inspectors, how the Convention might effect the development of non-lethal weapons development, and how the restriction on amendments to the Convention's articles would effect the Senate's constitutional right to make its advice and consent subject to any reservations it sees necessary.

In order to explore these problems carefully and in detail, the Committee held a series of hearings in the 103d and 104th Congresses, at which Clinton administration and former Bush administration officials, and nongovernmental witnesses were invited to testify. A discussion of each issue follows.

A. Verification and Implementation Issues Considered in Resolution of Ratification

1. Verifiability.

Supporters and critics of the Convention alike agree that the Convention's verification regime is not perfect. The nature of chemical production makes it impossible to ensure that any and all cheaters will be caught by any reasonable verification regime. The Committee thus had to examine the risks of an imperfect convention versus the risks of not having a Convention at all.

Critics argued that cheating would be easy and diverse. Chemical technology is relatively cheap, easy to acquire and easy to conceal. Rogue producers could hide their production and storage equipment in any number of natural or man-made facilities. Determined cheaters could divert chemicals from legitimate commercial production to covert weapons production sites. Critics often pointed to allegations by Vil Mirzayanov, a Russian scientist, about secret

chemical weapons development work in the Soviet Union and then Russia.

Competing U.S. interests had to be balanced in the verification provisions. The U.S. and others had to balance the need to protect sensitive non-chemical weapon national security assets, as well as constitutional rights and non-chemical weapon proprietary interests with the need for the access necessary to ensure effective verification and deterrence. During the negotiations, the U.S. sought to protect U.S. proprietary concerns, constitutional rights, and national security, while at the same time providing sufficient access for effective verification and deterrence. Both the Bush and Clinton Administrations and U.S. chemical industry are satisfied with the final balance in the Convention, which provides both sufficient provisions to protect that which needs protecting and to address compliance concerns.

As James Woolsey, then Director of Central Intelligence, said in testimony before the Committee:

> * * * we in the intelligence community do not forget that larger U.S. interests, both from a counterintelligence perspective and in protecting proprietary information and constitutional rights, played a major role in shaping the scope and nature of the [Convention's] inspection regime. Throughout the many years of the [Convention's] negotiations, representatives of the intelligence community were fully consulted on these tradeoffs. The intelligence community participated in and supported the choices that were made.

The U.S. need for protection of the rights guaranteed under the U.S. Constitution has been specifically included in the challenge inspection provisions, which state that "in meeting the requirement to provide access * * *, the inspected State Party shall be under the obligation to allow the greatest degree of access taking into account any constitutional obligations it may have with regard to proprietary rights or searches or seizures." Thus, the United States. would not violate the Chemical Weapons Convention in the unlikely event access had to be limited or severely restricted because it proved impossible to obtain access in a constitutionally permissible manner.However, if a State Party restricts access, it is obligated to make every reasonable effort to provide alternate means to satisfy the compliance concern that instigated the inspection.

Each nation that joins the Convention accepts the unambiguous obligation to grant challenge inspections in the event others suspect it is trying to violate the treaty's prohibitions. Challenge inspections will be governed by timeliness in order to thwart any attempts host officials might make to delay the proceedings. Within 36 hours after arrival in the challenged country, inspectors will begin monitoring activities at the perimeter of the challenged site. Initially they can only take photographs, examine traffic logs, and patrol the perimeter under escort, but once the dimensions of the perimeter are agreed the inspectors can take air, soil, and effluent samples and use other monitoring instruments.

The guidelines for managing a challenge inspection are similar to those of a routine inspection. That is, inspection procedures are

intended to allow the inspectors to assess the status of activities without forcing states and companies to forfeit unrelated security and business secrets. In that regard, the specific areas of a challenged facility that inspectors will examine will be subject to negotiation, and host officials can use such safeguards as shrouding equipment or logging off computers. Within 72 hours after inspectors arrive at the perimeter, the host country must provide access inside the perimeter to prove compliance. Instances where host officials do not satisfy inspectors' requests and make "every reasonable effort to demonstrate" its compliance will be duly recorded in the inspectors' report. While these reports will become the basis for subsequent action, compliance judgements will be made by governmental officials, not the inspectors of the international monitoring agency.

As useful as these provisions are, however, challenge inspections are not a guarantee that all troubling situations will be quickly resolved. Inspectors may emerge from a challenge inspection with the "smoking gun" of proof, but, far more often, ambiguities will remain in situations of concern. Whether appropriate action is taken in these instances will depend upon the will of the international community, which in turn depends upon the political leadership of the U.S. and other leading countries. When it comes to treaty enforcement, there is simply no substitute for the international will to take punitive action if the country in question does not rectify its behavior. In other cases, the results of a challenge inspection may be ambiguous: the challenged sites may not receive a clean bill of health even though definitive evidence of noncompliance is lacking. Even in such circumstances, however, what the inspectors did or did not see will surely tell the international community more than it previously knew. This will initiate a process of ongoing attention to the situation; over time, an ambiguous situation will become clearer. As a result, concerned countries will be able to adjust their policies accordingly, including modifying export control policies and possibly adding other sanctions.

The United Nation's Special Commission's experience in Iraq is a case in point. For the past 4 years, UNSCOM has worked hard to bring Iraq to a complete accounting of its weapons of mass destruction (WMD) programs. UNSCOM's firm leadership, technical expertise, and inspection and monitoring activities—and the Security Council's support for these activities—have achieved measurable progress toward neutralizing Iraq's ability to wage chemical, biological, or nuclear warfare.

UNSCOM's efforts, and those of the IAEA in the nuclear field, have produced a steadily increasing volume of information on Iraqi WMD programs. UNSCOM and IAEA's periodic reports to the Security Council show how far we have come, compared to what was there is now a sizable volume of facts and data. However, the information was rarely provided in great chunks. UNSCOM and IAEA inspectors ferreted it out by persistent pressure on the Iraqis over an extended period, backed by the Security Council. Steady pressure over time, backed by international sanctions, has yielded impressive results.

Some critics deride the Convention's monitoring requirements by characterizing them as utterly deficient. Ironically, during the

1980's these same critics touted these same provisions—detailed data reporting accompanied by routine and challenge inspections—as essential for success in verification. The critics of this treaty are ever mindful, as everyone should be, of the possibility that governments and individuals may try to circumvent the law. Their thoughts are mainly useful at this juncture for heightening vigilance, but they are no justification for dismissing a treaty built around the Ronald Reagan maxim that arms control is not about trust, it is about verification.

Non-cooperation of rogue states will be taken into account in U.S. judgments about compliance. The inspection team report will contain not only the factual findings of the inspection but also an assessment of the degree and nature of access and cooperation granted. Judgment on the compliance of an inspected State Party will rest upon an accumulation of information, e.g. that provided by the challenging State Party, the nature of cooperation of the inspected State Party, information from the inspection and alternative means offered, and our own national intelligence means.

The Chemical Weapons Convention also requires suspect violators to undertake measures to satisfy concerns about their compliance or face punitive measures. The Conference of States Parties can recommend to States Parties that they impose collective sanctions in the event of serious cases of non-compliance, and must bring cases of particular gravity to the attention of the U.N. General Assembly and Security Council.

The committee heard repeated testimony from government and non-government experts that the Convention creates the most comprehensive and intrusive verification regime in the history of arms control agreements. This regime requires detailed initial and annual declarations, access to declared chemical production facilities, access to undeclared but suspect facilities and access to other related locations through routine and challenge inspections. These declaration and verification provisions cover virtually every aspect of a chemical weapons program. Moreover, the Convention puts the burden of proof on suspected violators when there is sufficient doubt about their compliance. Suspected parties must either undertake specific, timely measures to satisfy any doubts or face punitive measures.

The inspection regime cannot, however, guarantee that all cheating will be detected. But John Holum, Director of the U.S. Arms Control and Disarmament Agency (ACDA), testified that this does not mean the Convention is not in that nation's interest. He argued that any significant chemical weapons program of concern for national security would have to go far beyond small-scale production and storage. Holum argued that:

> First, a significant [chemical weapons] program * * * must include development, testing, production, weaponization, storage, military training and other activities. Each additional step increases the risk of detection. The risk grows over time, as evidence from a variety of potential sources accumulates. The [Convention's] verification regime will heighten that risk of discovery and potentially provide an additional source of evidence. The larger, more systematic and sustained the violation, the higher

> the probability that we will obtain evidence of the illicit [chemical weapons] activity. Clearly, a program of significant size and scope would be difficult to conceal.

No treaty is 100 percent verifiable; thus since the beginning of the negotiations, the United States has taken the position that the final agreement must be effectively verifiable. The administration believes that the CWC is effectively verifiable, and that it protects and enhances U.S. national security interests. This conclusion is reflected in the verification report required by Section 37 of the Arms Control and Disarmament Act submitted to the Senate. That report reflects a consensus of the executive branch agencies and intelligence community. The key criteria taken into account in U.S. determination of effective verifiability were: (a) whether potential violations pose unacceptable risks to U.S. interests; (b) whether the CWC provides acceptable level of confidence that States Parties are in compliance with provisions; (c) whether the CWC facilitates the ability of the United States to detect significant violations in a timely manner; (d) whether the CWC serves to deter violations by increasing the political significance of violations, raising costs and risks associated with cheating; and (e) whether the CWC was comprehensive in scope, so when taken in the aggregate, the regime provides an interlocking web of information which promotes effective verification.

This raises the issue of what constitutes "significant." In his testimony before the committee, General John Shalikashvili, Chairman of the Joint Chiefs of Staff, addressed the issue of what would be a significant amount of chemical weapons from a military perspective. Unfortunately, there is no one easy definition of "significant" as the quantity of chemical weapons needed to seriously impede an opposing force is dependent on the situation. While this issue is also discussed below, it is worth noting here that General Shalikashvili stated firmly that from:

> * * * a military perspective the Chemical Weapons Convention is clearly in our national interest. The Convention's advantages outweigh its shortcomings. The United States and all other [chemical weapons] capable state parties incur the same obligation to destroy their chemical weapons stockpile. While less than perfect, the verification regime allows for intrusive inspections while protecting national security concerns. The nonproliferation aspects of the Convention will retard the spread of chemical weapons, and in so doing, reduce the probability that U.S. forces may encounter chemical weapons in a regional conflict. Finally, while foregoing the ability to retaliate in kind, the U.S. military retains the wherewithal to deter and defend against a chemical weapons attack. I strongly support this convention and respectfully request your consent to ratification.

The United States is faced with the problem of chemical weapon proliferation with or without the Convention. With or without it, the United States must try to detect foreign chemical weapons programs, distinguishing them from legitimate commercial activity and assess their threat to U.S. security. The United States now

uses a variety of intelligence gathering methods toward this end. The key question is whether the Convention would help or hinder the current approach. The United States does not need chemical weapons to deter chemical weapon use against its forces because superior U.S. military force, coupled with a modern defense program, is quite adequate to deter or respond to chemical weapon use.

CIA Director James Woolsey reinforced the point that, with or without the Convention, the intelligence community is tasked with detecting the existence of, and determining the threat to the United States from, other countries' chemical weapons programs. He stated that "it is to this broader mission that the [Convention] can make a contribution" by increasing the amount and type of information available to the intelligence community and by providing a basis for comparison with information the United States currently obtains by other means. This information could then be used either to build confidence where all the information is consistent or flag suspicions where there are inconsistencies or omissions. Woolsey called the Convention another "tool to add to our collection * * * with a broad applicability which can help resolve a wide variety of problems * * *. We will know more about the state of chemical warfare preparations in the world with the treaty than we would know without it." "Entry into force" of the Convention would not necessarily change the number or types of problems associated with the proliferation of chemical weapons programs around the world, but it would increase the ability of the United States to discover and challenge those programs. In short, the administration argues, the Convention does nothing to weaken existing national technical means of verification but, indeed, enhances them. The committee fully expects the administration to vigorously pursue access to information from the inspection process to ensure that the intelligence community does indeed have the information it needs to track and evaluate compliance.

Many countries were sensitive to the possibility of U.S. or Western control of the CWC verification assets for national interests. They were concerned that they might be the targets of information or, at a minimum, that the CWC organization would use its inspection assets to satisfy Western security needs rather than their own. Thus, CWC provisions are drafted such that the United States could provide such information if it so desired. The provisions are also drafted such that their application will be nondiscriminatory. The verification resources of the OPCW are available to all States Parties on the same basis. If some states decide to supplement those resources with national assets, that is their prerogative.

There are provisions in the CWC that allow for States Parties to receive information from national declarations of other states as well as from routine and challenge inspections. There are also provisions in the confidentiality annex for the protection of information provided by States Parties. The United States would have to ensure that any intelligence information it might provide to the CWC Organization is protected properly.

Verification judgments should not be confused with monitoring assessments. The Intelligence Community monitoring effort is one element designed to provide evidence contributing to U.S. verifica-

tion and compliance judgments. Compliance judgments incorporate policy judgments which consider other inputs such as the negotiating record, legal interpretations, and compliance analysis. Compliance judgments are based on the relationship of specific events to more generic treaty provisions and on whether, given the range of uncertainty in monitoring confidences, a violation can be determined to have concurred.

It would be a difficult task to monitor all chemical facilities worldwide. However, the majority of chemical industry facilities declarable under the Convention are located in Western countries, where the likelihood of cheating is minimal if not totally absent. About three-fourths of the nations assessed to possess or have the capability to produce chemical weapons have already signed the CWC—and one would expect some focus of monitoring capability, especially challenge inspection requests, on the more likely prospects of concern.

2. Universality and Effectiveness

Few people believe that all countries will ratify the Convention. Some of the countries that the United States worries already have or are acquiring chemical weapons programs—such as Iran, Iraq, North Korea, or Syria—might well be the very ones which do not ratify it, at least for the foreseeable future. Not all chemicals that could be used in chemical weapons production will be banned either, as some of those chemicals have legitimate commercial use. It would be both impractical and harmful to industry to attempt to completely rid the world of dangerous chemicals. The committee was therefore concerned about the Convention's effectiveness, because as long as certain chemicals and the political will to use them as weapons remain, the threat of a chemical weapons attack also remains.

The committee heard testimony from administration officials and outside experts that the Convention's strengths significantly outweigh its weaknesses. First, the Convention creates an internationally accepted political standard against which all countries can be measured and held accountable. Any country which refused to be held to that norm would immediately be seen as suspect and therefore subject to increased monitoring by the intelligence communities. Specifically, the Convention creates a legal regime prohibiting not just the use, but also the development, production, stockpiling, or transferring directly or indirectly of chemical weapons. There is currently no such internationally accepted law and therefore no legal basis on which to challenge chemical weapons development, production or trade. One witness likened chemical weapons to murder. Everyone can proclaim that murder is wrong, but unless there are laws against it, there is no legal ability to arrest murderers. The Convention will provide a basis for both challenge and punitive action.

Second, the Convention creates a financial incentive for countries to join by controlling, and in some cases restricting international trade in certain chemicals for nonparties. The restrictions tighten significantly against nonparties in the 3 to 5 years following the Convention's entry into force, making it increasingly in a country's commercial interest to join. Fourth, even for nonparties the Con-

vention creates a deterrent to chemical weapons proliferation by making it harder and more costly to get the chemicals necessary for production. The Convention's trade restrictions force would-be proliferators to use more difficult, costly, circuitous paths that are arguably more detectable in the long run.

Fifth, the Convention provides for some assistance to state parties that are attacked or threatened with attack from chemical weapons. This type of assistance could take the form of detection equipment and alarm systems, protective equipment, decontamination equipment and decontaminants, medical antidotes and treatments and advice on any of these measures. Some critics erroneously argued that this provision committed the developed nations to share their chemical defense technology with Third World countries thus permitting, in effect, technology transfers that would aid the potential development of more sophisticated Third World chemical weapons. Nothing in the Convention requires developed countries to share this type of information.

Finally, as one witness pointed out, if the Nuclear Non-Proliferation Treaty is any example, membership will likely increase over time as the political and cost-benefit calculations of nonparties change.

While some witnesses pointed to the Convention's imperfections as reason for the Senate to deny ratification, supporters pointed out that no arms control agreement in history has been either completely global or completely effective. Michael Moodie, President of the Chemical and Biological Arms Control Institute, and a former Bush administration official, pointed out that expecting the Convention to make the world completely safe from the threat of chemical weapons all by itself is asking it to shoulder a burden it was never designed to carry. Only when the Convention works in concert with other policy tools, including national intelligence monitoring, a robust chemical defense program and an overwhelming conventional deterrent, will the United States be prepared to meet the challenge of chemical proliferation. Moodie also argued that the Convention's over-all effectiveness will ultimately depend, at least in part, on the political will of its members to act in the face of violations.

General Shalikashvili also pointed out that while not all countries in the world have signed the Convention, and not all signatories will ratify the Convention, the

> * * * list of signatories includes the Russian Federation, which possesses the world's largest declared chemical weapons stockpile. The eventual destruction of approximately 40,000 tons of declared Russian chemical weapons will significantly reduce the chemical threat faced by United States forces.

In his testimony before the Senate Foreign Relations Committee, United States Secretary of State Warren Christopher, argued: "The best protection against these weapons [chemical] is to make it more difficult for hostile nations and groups to obtain and use them. By blocking the supply and demand for chemical weapons, the Chemical Weapons Convention does just that."

Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs, told the Senate Foreign Relations Committee: "The convention's imposition of an internationally recognizable obligation to destroy all chemical weapons essentially places all other CW capable state parties on an equal footing with the United States. Because of the convention's trade restrictions and provisions, deproliferators outside the convention will find it increasingly more difficult to acquire the chemical precursors essential to building a chemical weapons stockpile."

U.S. Secretary of State Warren Christopher added: "The CWC will have a deterrent effect on CW proliferations and put new pressures on countries that remain outside the treaty. A country like Libya that requires foreign assistance to begin or further develop a CW program would find it more difficult since States Parties will be prohibited from assisting anyone in activities banned by the CWC and will also be required to ban trade with non-States Parties in certain chemicals that could be used to make chemical weapons.

In addition, the CWC will establish an unprecedented international norm against virtually every aspect of an offensive CW program, providing a basis for international action against proliferators and enhancing political pressure against countries that continue to engage in such programs. Those outside the CWC will be subject to political isolation and intensified scrutiny for signs of CW activity.

Finally, the CWC will afford better information on rogue states' efforts to acquire chemical weapons. It will increase our access to information about clandestine chemical weapons programs even in countries that do not join; the declaration and verification provisions of the CWC require unprecedented transparency regarding CW-relevant activities and provide the United States with otherwise unavailable information that will facilitate U.S. detection and monitoring of illicit CW activities."

Mr. John Holum, Director of the United States Arms Control and Disarmament Agency, clearly stated before the Senate Foreign Relations Committee: "First, we have already decided to eliminate a large part of our chemical arsenal * * *. As we unilaterally dismantle our own chemical weapons, it makes sense to seek the destruction of other countries' chemical weapons as well. The Convention imposes binding obligations on all parties to do what the United States has already begun to do. So the Convention has great value even if a few radical states do not join at the outset."

"Second, we are convinced that the answer to the use of chemical weapons must not be retaliation in kind, but rather a full range of defensive measures * * *. The Persian Gulf War provided a convincing, real life demonstration that the U.S. military is highly capable of deterring or responding to a chemical weapons threat with superior conventional military force and strategy."

Third, "by establishing a global norm against chemical weapons, the Convention will give the United States and world community a more effective means of pressuring radical governments to abandon their CW capabilities."

Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs, added:

"This treaty controls the sale of dangerous chemicals. And therefore, countries like Iran or Iraq or Libya will have a much more difficult time getting the chemicals to support their own domestic program."

To the Senate Foreign Relations Committee, the Director of the Chemical Weapons Convention Implementation Project at the Henry L. Stimson Center, Amy Smithson testified: "Foreign policy is not brewed like instant coffee: success in the international arena requires the identification of a worthy goal, the selection of a suitable course of action, and the fortitude to pursue that policy over the long-term * * *. Over 155 nations have joined the United States in signing the Convention—an ample demonstration of just how strongly the global community feels that the Convention is the appropriate vehicle to establish a strong behavioral norm against chemical weapons proliferation and the legal foundation to curtail it."

3. Costs

Critics of the Convention argue that the costs of implementation outweigh the benefits to national security. These costs, they claim, are both direct and indirect. The direct costs include the creation and maintenance of international and domestic bureaucracies to carry out the inspection and monitoring regimes. Indirect costs include the potential loss of national security and proprietary information.

The chemical industry in the United States, as represented by the Chemical Manufacturers Association (CMA), understands and accepts the costs of the Convention and has been vocal in its support of the Convention. As Fred Webber, the President of CMA, wrote in the Washington Post in April 1995:

> The chemical industry has been an outspoken supporter of * * * the Chemical Weapons Convention * * * the unpleasant truth—last seen during the Persian Gulf War—is that commercial facilities in Iraq were used for military purposes. The best safeguard against that happening again is to make all commercial chemical plants subject to the scrutiny of international investigators. Honest businesses have nothing to fear. Anyone with other motives will run the risk of getting caught in the act. The treaty is the best means available to prevent legitimate chemicals from falling into the wrong hands.

The industry has been involved not only in negotiation of the Convention, but also in drafting implementing legislation for the Convention. Referring to the draft implementation legislation presented by the administration to Congress, Dr. Will Carpenter, a representative of the (CMA), testified that if "the final regulatory package reflects the general intent behind much of the legislation, we [CMA] believe that the potential regulatory burden on, and intrusion in commercial facilities should be minimal."

In his testimony, General Shalikashvili also addressed the issue of potential loss of national security information. He cited mock chemical weapons inspections done by the services with the assistance of the On Site Inspection Agency. General Shalikashvili

claimed that the inspections "have proven that while the Convention's inspections may be costly in terms of personnel and resources, U.S. facilities can still protect themselves against the disclosure of national security information and information on sensitive equipment and facilities * * *." He concluded that, on balance, the Convention's advantages outweighed its disadvantages, saying the "verification regime allows for intrusive inspections while protecting national security concerns."

In an answer to questions for the record the administration addressed the issue of the potential loss of proprietary information. While this issue is also addressed below, it is worth noting here that the Confidentiality Annex contains procedures for States Parties to designate sensitive information that requires special handling and to have any concerns about breaches of confidentiality investigated. Also, the Annex will establish different levels of sensitivity of confidentiality for data or documents, to be based on universally applied criteria. Access to confidential information will be regulated according to classification, and dissemination of such information within the Organization will be handled on a "need to know" basis. The Annex mandates that the Preparatory Commission develop the classification system for the Conference of the States Parties to approve after the Convention enters into force. The Annex further sets up rules for how information is to be protected and under what circumstances it may be released. Finally, it provides procedures for punitive action against employees who violate those rules.

At committee request, the General Accounting Office prepared a report in 1994 on the Status of U.S.-Russian Agreements and the CWC. The report's key conclusions and recommendations with regard to costs are as follows:

> U.S. plans call for $85 million more to be spent on research and development efforts designed primarily to refine and improve the convention's verification regime. These unilateral expenditures are voluntary and are aimed mainly at supporting the OPCW, although they also support the bilateral destruction agreement with Russia. A key question to consider now is whether the United States should continue paying for all such efforts without first seeking to obtain support funding from the OPCW. We recognize that member states may not be able to support the entire U.S. research effort. Given that the OPCW is a multilateral organization whose efforts will benefit all members, it appears reasonable to expect that significantly greater cost sharing of OPCW activities should be undertaken by other member countries. By seeking OPCW funding support, the United States would also obtain some evidence as to whether the international organization deems the planned U.S. research to be of substantive value to the verification process.
>
> We recommend that the Director, ACDA, and the Secretary of Defense reach an agreement with the Preparatory Commission (and subsequently the OPCW) on how the United States can be reimbursed for some of the

costs of U.S. research and development efforts which directly support the chemical weapons verification regime.

With regard to U.S. compliance efforts, the Navy and Army have chosen to pursue a site diagram program which costs millions of dollars to develop and will require millions of dollars to maintain and keep operational. The Air Force has chosen to use a low-cost option for transmitting site diagrams to Washington. The Army and Navy could save about $5.6 million over the next 6 years by adopting the Air Force system.

We recommend that the Secretary of Defense review the treaty compliance program of the military services with the view of determining and implementing the most cost-effective system for generating and transmitting site-diagrams in the event of a challenge inspection.

U.S. Secretary of Defense, William J. Perry, argued before the Senate Foreign Relations Committee: "While it is true that this will be a complex and a costly process, I want to point out that Congress has already directed the Executive Branch to undertake the major part of this obligation without regard to the CWC treaty."

In his testimony before the Senate Foreign Relations Committee, Dr. Brad Roberts, a Member of the Research Staff at the Institute for Defense Analysis maintained: "The cost to the United States of sustaining the OPCW will be far lower than the cost of sustaining a CW stockpile, equal to or lower than what it invests in other arms control measures, and a pittance compared to what it spends on chemical defense."

Dr. Brad Roberts added: "The costs to the U.S. Treasury and to U.S. industry are within reasonable bounds. Measured in relative as opposed to absolute terms, they are minimal. The regulatory burden on industry that will be created by the CWC is relatively modest, given the burdens already falling on industry, and is far preferable to jeopardizing industry's long-term competitiveness by failing to create agreed trading rules."

4. Enforcement/sanctions

The Committee also considered the issue of penalties for non-compliance with the Convention. Critics pointed out that there is little in the way of punitive measures and that those that are in the Convention are too vague to be an effective deterrent.

The question of penalties for misbehavior was addressed late in the negotiations. The lack of specificity regarding both what sanctions would be appropriate and how to apply them is indicative of the difficulty of these negotiations. That said, the Convention's sanctions and provisions are more comprehensive than those of any other similar agreement. Minor violations would be handled within the Executive Council of the Organization for the Prohibition of Chemical Weapons. In the case of more serious violations, the Conference of State Parties can, upon the recommendation of the Executive Council, restrict or suspend a State Party's rights and privileges under the Convention or recommend that States Parties impose unspecified collective measures. The U.N. General Assembly and the Security Council would consider violations of "particular gravity."

Supporters of the Convention argue that this lack of specificity gives a degree of flexibility and raises a potential violators uncertainty about penalties. In the end, the effectiveness of the prospective arrangements may only become clear if there are violations, the violations are discovered, and the international political will exists to counter them.

5. Destruction of stockpiles

The committee had several questions regarding the destruction of the U.S. stockpile of chemical weapons, including the estimated costs, where the United States is in the process and how much money has already been spent, the safety of baseline incineration, and what other countries think of incineration as a method of destruction.

According to the administration the life-cycle cost for destroying U.S. chemical stocks is currently estimated as $12.4 billion over the period of destruction. The cost of destroying the nonstockpile items the Convention requires, such as chemical weapon production equipment, is approximately $1 billion. These figures do not include the costs of verification. As of the end of March 1996, the Defense Department had spent approximately $3.1 billion on the Chemical Stockpile Destruction Program. The administration pointed out that the United States will be paying these costs regardless of whether or not the Convention enters into force.

In 1969 the United States stopped producing unitary chemical weapons agents and munitions. Since then the stockpile has become increasingly old, and in some cases unsafe. Following a report of the Chemical Warfare Review Commission in 1985, Congress mandated in the Defense Authorization Act of 1986 (P.L. 99–145) that the Defense Department dispose of the unitary chemical weapons stockpile by September 30, 1994. The deadline was extended twice, and in the 1993 Defense Authorization Act (P.L. 102–484), the destruction deadline was extended to December 31, 2004, a date nearly identical to the deadline required by the Convention. Yet, with or without the Convention, U.S. law already requires the most difficult aspects of destruction—that of the chemical weapons agents themselves—to be destroyed on a 10-year timetable. A key advantage of the Convention is that it requires other countries to destroy their chemical weapons on the same timetable.

In fiscal year 1996, the Chemical Demilitarization Program has a budget of roughly $854 million. To date, the United States has completed construction of two disposal facilities: Johnston Atoll Chemical Agent Disposal System in the Pacific Ocean and the Tooele Chemical Agent Disposal Facility in Tooele, Utah. Johnston Atoll began full-scale operations in January 1994 and has destroyed over 120,000 individual munitions and 1,000 tons of chemical agent so far. This includes over 45,000 105 mm artillery projectiles, over 72,000 M55 rockets, and some 3,000 MC–1 bombs. Other destruction facilities are being planned at the seven remaining chemical weapons stockpile storage sites in the United States. The administration provided the following update on the status of specific aspects of the destruction program:

Johnston Atoll Chemical Agent Disposal System (JACADS). JACADS has fully recovered from the damage done by Hurricane

John in 1994 and has completed destroying the MC–1 and MK–94 bombs previously stored on Johnston Island. JACADS is currently preparing for the upcoming GB 155 mm Projectile Campaign. An application for renewal of the JACADS operating permit has been submitted to the Environmental Protection Agency and is expected to be acted upon by the summer of 1996. Destruction operations at the facility are scheduled to be completed in 1999.

Tooele Chemical Agent Disposal Facility (TOCDF). Tooele has completed systemization testing, in which the individual process components (e.g. disassembly equipment, conveyors and incinerators) were tested as a complete process line using simulated chemical items. Surrogate burns mandated by the State of Utah for four of the facility's furnaces were completed as has the Toxic Substances Control Act (TSCA) R&D burn for the deactivation furnace. Toxic disposal operations are scheduled to begin in early 1996 and to be completed in 2002.

Anniston Chemical Agent Disposal Facility (ANCDF). The ANCDF's updated application for the necessary environmental permits were submitted to the State of Alabama in February 1995 and are expected to be acted upon in the fourth quarter of FY 1996, pending receipt of the necessary environmental permits from the State of Alabama. Destruction operations are currently scheduled to begin in the second quarter of FY 2001 and to be completed by 2004.

Umatilla Chemical Agent Disposal Facility (UMCDF) and Pine Bluff Chemical Agent Disposal Facility (PBCDF). Umatilla and Pine Bluff's applications for the necessary environmental permits were transmitted to the State of Oregon and the State of Arkansas, respectively, in March 1995 and June 1995, respectively. Construction is expected to begin in the fourth quarter of FY 1996, pending receipt of the necessary environmental permits.

Remaining CONUS sites. The remaining CONUS sites (Pueblo, Aberdeen, Blue Grass, and Newport) are still in various stages of design. Pueblo's required environmental permit application was transmitted to the State of Colorado in October 1995. Lexington's environmental permit application was transmitted to the State of Kentucky in December 1995. Permit applications for Aberdeen and Newport are expected to be transmitted to State authorities in November 1996 and July 1997, respectively.

The administration anticipates that the United States will be able to meet the 2004 deadline, provided that environmental issues can be resolved in a "timely manner."

With regard to safety issues the administration stated that the Department of Defense's position is that the chemical stockpiles can be safely destroyed using the baseline incineration destruction process. The National Research Council (VX) of the National Academy of Sciences concluded that baseline incineration is a safe and effective process for destroying chemical agents and munitions. The [National Research Council] also concluded that the risks increase over time as stockpile deterioration inevitably progresses, thus making the weapons more dangerous to store or to destroy.

The U.S. Army concurs with the National Research Council's conclusions that the baseline destruction process is safe and effective and should proceed without delay, and that the risks from con-

tinued long-term storage of the agents outweigh the potential risks from incineration. While the Army plans to move ahead on destruction, it also plans to research two alternative technologies: stand-alone neutralization and neutralization followed by biological treatment. The National Research Council recommended that both methods receive further study. These two methods are fundamentally different from incineration and other destruction methods in that they operate at low temperatures and low pressure. The administration leaves open the possibility that it may adopt one of these two methods at low-volume bulk-agent sites, depending on the results of the study. The Army is also following some of the National Research Council's other recommendations on safety and cost-effectiveness.

The administration believes that the risk of storing chemical weapons increases over time as the stockpile inevitably deteriorates and the weapons become more dangerous to store or destroy. In sum, it believes that the "present program can ensure environmentally safe destruction within the 10-year timeline of the [Convention]."

As to other counties' views of the incineration process, the administration reported that Germany, the United Kingdom, and Canada have all used incineration-based technologies to destroy chemical weapons. Germany has built an incineration facility near Munster, for the destruction of mustard-agent munitions, and plans to build a second incineration facility for agents containing arsenic. The administration pointed out that the "German government considers incineration technology to be environmentally safe, even given its stringent environmental regulations." After the United Kingdom used incineration to destroy mustard-containing munitions, it determined that negligible toxic emissions were released into the atmosphere as a result of the process. The Canadian government used incineration to destroy mustard gas and the neutralized waste from nerve agent. The Russian Federation, however, has not yet decided on the technology it plans to use to destroy its chemical weapon stockpile.

Steven R. Bowman, an analyst in National Defense for the Congressional Research Service, prepared, at Committee request, a study of ratification and implementation issues in 1994. This study is attached.

Mr. Bowman writes with regard to the United States destruction program:

> The United States is by far the country most advanced in its [chemical weapons] destruction program. In the early 1980's, the Department of Defense (DOD) declared approximately 90% of the U.S. chemical stockpile (28,000 agent tons) obsolete. This decision, coupled with a 1985 congressional directive to destroy these munitions by 1999 (now amended to 2004), led DOD to begin planning a destruction program over a decade ago. Nevertheless, it is not entirely assured that the United States will be able to meet the 2005 Convention deadline. Current DOD estimates call for completing destruction on time, but a number of factors could intervene.

The most unpredictable factor is the length of time it will require to obtain the necessary federal and state permits to build and operate the destruction facilities. The current plan calls for destruction facilities to be built at each of the eight [chemical weapons] storage depots. For each site, the U.S. Army must obtain separate permits under the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act Amendments of 1977. In addition, environmental impact statements are required under the National Environmental Policy Act of 1969. The General Accounting Office has expressed doubt that current estimates allow sufficient time for fulfilling existing permit application requirements.

Adding to the federal requirements, it is clear that the destruction program will face additional obstacles at the state level. In the last two years, public concern in the regions where destruction facilities will be built has heightened considerably. The primary fears are of toxic emissions from the destruction process and the possibility of catastrophic accident. Public interest groups have arisen and been influential in getting state governments to consider or enact highly restrictive standards for any [chemical weapons] destruction facility. In fact, Kentucky and Indiana have passed legislation that could significantly delay, or even prevent, building destruction incinerators, while Colorado and Maryland are considering such legislation. Even if federal and state permits are granted, public challenges, either judicially or politically, could also bring delays. If Convention deadlines are to be met, Congress may have to address the extent to which state legislation or the courts can impede the United States' fulfillment of international treaty obligations.

Another potential obstacle to meeting Convention deadlines is the question of method of destruction. The Army's chosen method (called baseline) is to drain the munitions and then incinerate the chemical agent and munitions parts. Though the choice of this method came after extensive study of alternatives, incineration has still raised strong public objection. As a consequence, Congress directed the Army to reconsider alternative technologies. As part of this effort, the National Research Council of the National Academy of Sciences has completed a review of potential alternative methods. The Army is to study this review and provide Congress by December 31, 1993, a detailed report on how alternative technologies compare to the baseline method in terms of safety, environmental protection, and cost effectiveness.

The National Research Council report observes that there are possible alternative technologies, but they are untested. The Council estimates that the necessary research and development could take a minimum of five years before a pilot plant could be operational for evaluation. The Council's report also noted that additional pollution control devices could be added to the baseline tech-

nology to reduce further the possibility of toxic emissions. In looking at the Council's report, no alternative technology appears to surpass the current approach with regard to safety, environmental protection, and cost. The cost could be particularly prohibitive given the delay that new research and development would entail. Nevertheless, the House Appropriations Committee believes that the Council's report will cause significant changes to the destruction program's budget and structure, and consequently has recommended adding $25 million to the program's FY 1994 appropriation in anticipation of additional research and development, and deferred $50.7 million in procurement funds.

If these potential problems do prevent the United States from meeting Convention deadlines, it can apply to the OPCW for an extension. The political consequences of doing so, however, may be undesirable. Any delay on the part of the United States would probably result in an equal or greater delay on the part of Russia * * *. In addition, in the eyes of many, the status of the United States as a major proponent of the Convention and arguably the most technologically advanced Nation places a greater responsibility on its adherence to Convention provisions. This dynamic could lead to other nations with smaller, though politically more destabilizing stockpiles, also to plead difficulties and request extensions of the destruction deadlines.

With regard to the Russian destruction program, Mr. Bowman writes:

Russia possesses the world's largest chemical weapons stockpile, estimated to be 40,000 to 50,000 tons. Its plans for a destruction program are embryonic, and the country's on-going political and economic turmoil leads most observers to believe it will not be able to meet Convention deadlines on its own. Russia has established a commission * * * to oversee the destruction program * * * and has made it clear that Russia will require both technological and financial assistance to destroy its chemical weapons. In addition to direct foreign assistance, Russia is considering establishing an investment bank to encourage commercial participation, and hopes to recycle some commercially valuable compounds from the destruction process for sale * * *.

Congress has responded to Russia's call for assistance, appropriating $55 million in aid to be used for the initial planning and evaluation stages of the Russian program. In addition, the United States has agreed to share destruction technology and participate in the exchange of technical experts. To facilitate these efforts, the United States has opened a Chemical Weapons Destruction Support Office (CWDSO) in Moscow. The questions that remain unanswered, and are perhaps unanswerable for the time being, are what additional assistance Russia will request or re-

quire, and whether it will be able to meet Convention timetables, even with additional assistance.

Aside from financial concerns, Russia faces other obstacles that could substantially delay its destruction program. With the continuing governmental disarray, Russia has been unable to establish a managerial structure with sufficient authority to carry out a program. Government bureaucracies shunning responsibilities, less than full cooperation from the military, and uncertainties about the tenure of central authority have all contributed to the problem.

Secondly, as democratization proceeds fitfully, and the central government no longer has overriding authority, public opinion has begun to play a stronger role. As in the United States, communities where destruction facilities may be built have started to voice concerns about public safety. One facility, completed over two years ago, has been closed and will not be utilized owing to local protests.

Through both the OPCW and the CWDSO in Moscow, the United States should be able to follow closely the progress of the Russian destruction program. Russia's solicitation of assistance, both technical and financial, from the United States and other Western nations will also provide opportunities to monitor the destruction program.

The Administration has stated that meeting the CW destruction time lines mandated in the CWC presents a challenge for Russia. However, as discussed below, the U.S. is working with Russia in a number of areas to help it establish a realistic and executable CW destruction program. In addition to the CWDSO in Moscow and the destruction planning assistance, the U.S. is also working with Russia on a joint evaluation of the Russian nerve agent destruction process to determine, among other things, whether it meets CWC requirements.

6. "Rogue" Inspectors

The Committee was concerned with the possibility of "rogue" inspectors who might use their participation in the Organization's international inspection process as a way to learn how to "cheat" on inspections and then pass that information on to their national governments. Critics pointed out that Iraqi participants in International Atomic Energy Agency inspections had done just that. They used the inspection process to learn how to hide critical information about Iraq's nuclear program from inspectors in Iraq.

In a response to a question for the record, the administration stated that it was unlikely that any information an individual inspector was able to obtain could be more than marginal help to a determined cheater. The administration stated that there is nothing particularly unique about the inspection process, that most of the procedures are specified in the treaty itself or will be detailed in the Organization's inspection manuals and negotiated facility agreements, and all of this information is readily available to States' Parties. While acknowledging the point that an experienced corrupt inspector could gain some additional information that could make it easier for a State Party to hide its illicit activities, the ad-

ministration claimed that the advantages would be slight. The administration went on to state that the "viability of the [Convention] will depend on the reasonable assumption that the vast majority of international inspectors are honest and dedicated to the goals of the regime." Finally, the Technical Secretariat will have the responsibility of ensuring that inspectors are "appropriately advised and reminded" of security requirements.

7. Chemical weapons convention (CWC) funding

The Organization for the Prohibition of Chemical Weapons (OPCW) will be funded through signatories' contributions. In addition, there will be the costs associated with domestic implementation.

The CWC is both a disarmament and non-proliferation treaty. In view of the contribution of the CWC to U.S. national security, the Administration believes the Convention is worth its relatively modest price. The United States and a number of other countries pay the largest percentage of the overall cost, based upon the United Nations formula of cost assessment adjusted to take into account differences in membership. This formula is specified in the CWC and applies to all signatories' contributions to the Preparatory Commission and States Parties assessments under the CWC. The U.S. assessed contribution to the overall cost will be approximately 25 percent.

Additionally, a State Party with chemical weapons and chemical weapons production facilities (CWPF) is expected to pay not only for their destruction, but also for verification activities associated with the monitoring and destruction of these CW and CWPF.

The CWC is different than other multilateral arms control agreements in that it requires certain detailed procedures for verification be developed and an international organization to conduct verification activities be established in the two year time period between opening for signature and entry into force. This is necessary to ensure that compliance can be monitored from the moment the Convention enters into force.

As of July 31, 1995, 93.9 percent of the 1994 budget assessment had been paid. More than half of the Member States had paid their contributions in full or made payments on account. Also, for the same time period, 76.3 percent of the assessed contributions for the CY 1995 budget have been paid. Both of these are higher percentages than international organizations normally are able to collect, indicating a great deal of support for this Convention.

Costs for a full-year of PREPCOM activities in 1996 are budgeted at 55.3 million Dutch Guilders (approximately $33.5 million). Following is a presentation of the 1996 U.S. costs in support of the CWC. Also presented are CW related costs which occur whether or not there is a Chemical Weapons Convention.

8. Chemical weapons convention costs

[In millions of dollars]

	Fiscal year—			
	1993	1994	1995	1996
CWC-related Costs:				
State (CIO)	NA	NA	NA	[1] 8.63
ACDA:				
PrepCom/OPCW Assessment	2.20	9.40	14.0	0.00
Admin/PrepCom Support	2.24	0.98	1.00	1.00
Industry Outreach	0.20	0.20	0.30	0.00
ONA Requirements	0.00	0.25	0.96	0.00
Total	4.64	10.83	16.26	[2] 1.00
DOD:				
OSIA	11.09	17.74	25.36	26.28
Services	17.45	26.00	39.29	38.19
DNA (Verif. RDT&E)	21.65	18.96	17.60	12.61
Total	50.19	62.70	82.25	77.08
DOC	0	0	0.00	0.00
Industry	NA	NA	NA	NA
Non-CWC dependent costs:				
DOD:				
Chemical stockpile disposal program	533.60	503.80	851.30	670.00
CW stockpile maintenance	93.80	98.40	99.40	76.60
Defensive/protective posture	576.20	584.16	508.60	453.50

[1] Amount in President's FY 97 budget request for FY 96. Final amount under review pending determination of allocations received in FY 96 Omnibus CR Appropriation.

[2] In addition, $5.84 of FY 94–95 carryover funds will be spent on PrepCom/OPCW and ONA requirements.

9. The Chemical Weapons Convention Preparatory Commission

Concerns have been raised that the work of the CWC Preparatory Commission (PrepCom) will undercut the CWC verification regime. Questions were also asked about U.S. influence over the PrepCom's work.

The CWC PrepCom is composed of states that sign the CWC. Since February 1993, it has been in continuous session in The Hague, the future headquarters site for the Organization for the Prohibition of Chemical Weapons (OPCW), which will implement the treaty after entry into force. The purpose of the PrepCom is to carry out the necessary preparations for the effective implementation of the CWC.

The PrepCom was tasked to develop very technical, detailed implementing procedures as well as the staff structure of the OPCW, financial and staff regulations and other administrative requirements. PrepCom participants understand that the Commission cannot revise the provisions of the Convention or develop procedures that undercut or change the basic provisions of the CWC. Therefore, the work of the PrepCom will not substantively effect the CWC text; nor will the U.S. ability to verify compliance with the CWC be affected to any greater or lesser degree by the work of the PrepCom than by the provisions of the CWC.

The PrepCom has established a provisional support organization, known as the Provisional Technical Secretariat (PTS), which is the predecessor of the administrative and operational arm of the OPCW. Upon the approval of States Parties, the PTS will become

the Technical Secretariat of the OPCW shortly after entry force of the Convention.

The PrepCom's Program of Work is designed to reach decisions effectively on issues necessary for implementation of the Convention. These issues are placed in two broad categories. One covers the administration of the PrepCom, PTS and future OPCW. The other includes all subjects related to the CWC's verification regime and the provision of technological cooperation and assistance. The PrepCom has made substantial progress on many issues in each of these categories.

The PrepCom has discussed all major areas of the Convention through a process of establishing groups of experts to focus on specific issues. All decisions made thus far have been made by consensus. The PrepCom has a voting mechanism for reaching decisions when a consensus cannot be reached, but this has been avoided in an effort to resolve issues to the satisfaction of all members.

With regard to administrative matters, the PrepCom has established rules of procedure, staff and financial regulations for the PTS, and has signed an agreement with the Host Government regarding privileges and immunities for PTS staff. Progress has also been made on staff and financial regulations for the OPCW and on an agreement with the Host Government regarding privileges and immunities for the OPCW staff. Fifty-nine professionals are currently on the PTS staff, six of which are U.S. citizens, including the Head of the Administration Division. Other U.S. citizens are in key positions on the Executive Secretary's personal staff and in the Verification Division.

With regard to verification, the PrepCom has, for example, developed declaration formats, guidelines for equipment procurement, inspector training requirements and programs, and procedures regarding confidentially. The PrepCom has also made progress in establishing the OPCW Laboratory and in developing the OPCW information management system.

The United States is the most active delegation in the PrepCom. Based on the extensive research and development work done in the United States and experience gained through various bilateral arms control agreements, the United States has submitted technical and procedural papers on almost every subject under discussion. The United States maintains a permanent delegation to the PrepCom and rotates experts through the delegation as they are needed. The United States has also provided cost-free experts to the PTS staff to assist in their internal administrative, long-range, and inspection planning.

The administration believes that U.S. ratification of the CWC will provide an important impetus to the PrepCom's efforts to prepare for entry into force of the Convention. U.S. ratification will spark momentum internationally toward entry into force and, by implication, more active participation by CWC signatories in The Hague. This will help ensure that the necessary administrative and verification procedures are ready for approval and immediate implementation by the OPCW following entry into force of the Convention.

10. The Organization for the Prohibition of Chemical Weapons

Responsibility for implementing the Chemical Weapons Convention will rest with the Organization for the Prohibition of Chemical Weapons, known as the OPCW. The CWC outlines the structure of the OPCW and its bodies, and defines their relationships, general operating procedures, and areas of responsibility. The OPCW will come into existence upon entry into force of the CWC and will be headquartered in The Hague.

The OPCW consists of three main bodies; the Conference of States Parties (CSP), the Executive Council (EC), and the Technical Secretariat (TS).

The CSP, consisting of all States Parties, is the principal decisionmaking body of the Organization, responsible for overseeing implementation of the Convention and the activities of the EC and the TS. The Conference of States Parties meets annually, unless it decides otherwise. In addition, the CSP is to meet no later than the end of the 6 and 11 year after entry into force of the CWC, to review the operation of the CWC regime. CSP responsibilities also include approving the annual OPCW budget, deciding on the scale of financial contributions, electing the members of the EC, and dealing with concerns about compliance.

The EC serves as the executive body for the OPCW, overseeing day-to-day activities. It is a political body, consisting of 41 rotating members. Each of the five regional groups is allocated a specific number of seats. Representation takes into account whether State Parties have a significant chemical industry. This criterion, along with a Western Group political agreement, essentially ensures the United States a permanent seat. It also ensures that those States Parties upon whose chemical industry the impact is greatest will have an important role in the operation of the CWC regime.

The TS consists of a chief administrator (the Director General), inspectors and scientific, technical and administrative personnel. The TS is responsible for carrying out the verification provisions of the Convention as well as related administrative functions.

B. SECURITY AND MILITARY IMPLICATIONS CONSIDERED IN RESOLUTION OF RATIFICATION

1. Retaliatory capability

The Department of Defense, even though recognizing that the CWC may not be universal or universally complied with, believes that the ability to retaliate in kind is no longer a necessary element in countering chemical weapons.

Fundamentally, DOD supports giving up the ability to retaliate with CW because the United States has an effective range of alternative retaliatory capabilities. U.S. chemical protective capabilities continue to be improved, partly as a result of the gulf war experiences. But the United States would not rely on protection alone. For obvious reasons, the DOD does not choose to specify in detail what responses the United States would make to a chemical attack. However, as DOD stated during the gulf war, if any country

were foolish enough to use chemical weapons against the United States the response will be "absolutely overwhelming" and "devastating". The United States does not need chemical weapons to deliver an effective response to a chemical attack.

General John Shalikashvilli, Chairman of the Joint Chiefs of Staff, addressed this issue directly in testimony before the Senate in August 1994. At that time, General Shalikashvilli said:

> The U.S. military's ability to deter chemical weapons in a post CWC world will be predicated upon both a robust chemical weapons defense capability, and the ability to rapidly bring to bear superior and overwhelming military force in retaliation against a chemical attack * * * Desert Storm proved that retaliation in kind is not required to deter the use of chemical weapons.

Another nation's first use of chemical weapons against the United States, its forces overseas, or its allies would be a violation of customary international law. If a nation were to join the Chemical Weapons Convention, development, stockpiles, storage, and use of chemical weapons would be a violation of international law.

The point has been made by administration officials that, under customary international law as seen in the doctrine of belligerent reprisal, the United States would be relieved from certain international obligations in order to respond to a chemical weapons attack. Essentially, the doctrine allows a country to retaliate to an attack that is in violation of international law in a manner that is appropriate, proportionate and necessary to restore the status quo ante.

Accordingly, the doctrine of belligerent reprisal must not be taken to mean that the United States will treat lightly obligations and assurances provided to other nations that it will not use nuclear weapons against them or threaten to do so, most notably in protocols to the Treaty of Tlatelolco, the South Pacific Nuclear-Free Zone Treaty, and the African Nuclear-Free Zone Treaty. The United States has ratified the protocols to Tlatelolco and signed the others.

Comparable assurances to the international community have been the express policy of the United States in succeeding years. The committee believes that it would be extremely unfortunate if other nations were to conclude at this juncture that the United States is in any way frivolous with regard to its adherence to its commitments and obligations.

Forgoing an offensive chemical weapons capability allows the United States to pursue, with strong international backing, DOD's long-held goal of a complete ban, and eventually saves us the cost and controversy that were associated increasingly with maintaining a chemical stockpile for retaliation.

In his testimony before the Senate Foreign Relations Committee, U.S. Secretary of Defense, William J. Perry, argued: "we [the U.S. military] do not need chemical weapons to provide an effective deterrent or to deliver an effective response to the use of chemical weapons against our forces."

U.S. Secretary of Defense, William J. Perry, added: "U.S. forces are equipped and trained to effectively and oppose an aggressor armed with chemical weapons."

U.S. Secretary of Defense, William J. Perry, continued: "The Department of Defense will maintain a robust chemical weapons defensive capability supported by aggressive intelligence collection efforts. This commitment to protecting our forces, combined with an ability rapidly to bring to bear the overwhelming power of our military capabilities, will form the backbone of military deterrence against any aggressor in the CWC world. Nothing in the treaty restricts our activities in this regard."

In his testimony before the Senate Foreign Relations Committee, Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs maintained: "banning chemical weapons is more important to national and international security than the possible threat of retaliatory use."

Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs added: "The United States military's ability to deter chemical weapons in a post-CWC world will be predicated upon a robust chemical weapons defense and the ability to rapidly bring to bear superior and overwhelming military force should chemical use be initiated by an adversary. Our military demonstrated in Desert Storm that retaliation in kind is not required to deter the use of chemical weapons. U.S. forces are the best equipped and trained forces in the world."

Before the Senate Foreign Relations Committee, Dr. Brad Roberts, a Member of the Research Staff at the Institute for Defense Analysis, stated: "For the kind of military threat that remains, the U.S. does not need chemical weapons. They are not helpful for either deterring or defeating the use of such weapons against U.S. forces in the kinds of interstate wars likely in the post-cold war era."

2. Deterrence

Several civilian critics of the Convention have argued against the philosophy of giving up the use of chemical weapons for retaliatory purposes. These civilians argue that the threat of potential U.S. use of chemical agents in a retaliatory capacity serves as an important deterrent by creating uncertainty in the mind of potential aggressors. They argue that denying a retaliation-in-kind capability unfairly limits the President's options to respond to a chemical attack.

In May 1991, President Bush stated that the United States was "formally forswearing the use of chemical weapons for any reason, including retaliation, against any state, effective when the Convention enters into force." General Shalikashvili testified that this decision was based on the belief that banning chemical weapons was more important for national security than the benefits of the threat of retaliatory use. He further testified that the ability of the U.S. military to deter chemical weapons after the Convention enters into force:

> * * * will be predicated upon both a robust chemical weapons defense capability, and the ability to rapidly bring to bear superior and overwhelming military force in

> retaliation against a chemical attack. * * * while the U.S. will forego [chemical weapon] retaliation in kind upon the Convention's entry into force it still retains a retaliatory capability second to none. Desert Storm proved that retaliation in kind is not required to deter the use of chemical weapons. Should deterrence fail, a chemical attack against U.S. forces would be regarded as an extremely grave action subject to an appropriate non-chemical response of our choosing. As was stated by Secretary Cheney during the Gulf War the U.S. response to a chemical weapons attack would be "absolutely overwhelming" and "devastating."

Other Defense Department officials testified before the Committee that the Department of Defense recognizes that the Convention will not be universal in coverage or universally complied with, at least at the beginning. But it believes that the ability to retaliate with chemical weapons is no longer an essential element in countering the possibility of possession of chemical weapons by other States. * * * Fundamentally, the Defense Department supports giving up the right to retaliate with chemical weapons because we have an effective range of alternative retaliatory capabilities.

Civilian critics argue that if the United States is determined to give up retaliation-in-kind as a deterrent, it would be better to do it unilaterally so that the decision could be easily reversed if necessary. Yet this would entirely undercut the purpose of the Convention which is to eliminate chemical weapons for all time. Such a stance would also limit the ability of the United States to encourage others to join the Convention.

Matthew Meselson, of the Department of Biochemistry and Molecular Biology at Harvard University, testified that a U.S. Government interagency study concluded that like-for-like deterrence "does nothing to prevent proliferation and, if anything, encourages it." He testified that it was on the basis of this study that U.S. policy on using chemical and biological weapons as a deterrent began to change.

Finally, then Director of Central Intelligence Woolsey testified that in the CIA's judgment, the Convention would serve a second type of deterrence purpose, that of discouraging some nations which might otherwise have begun or maintained chemical weapons programs from doing so. He argued that countries that might have begun or continued a chemical weapons program out of fear of a regional chemical weapons threat may be reassured by potential adversaries' ratification of the Convention and/or by the Convention's guarantees of international assistance if they are threatened or attacked with chemical weapons. He argued that other nations might simply decide that the risks and costs of cheating outweigh the marginal strategic advantage.

3. Defenses

What will the United States do to protect its troops? The Department of Defense has made it clear that it will maintain a robust chemical defense capability supported by aggressive intelligence collection efforts. This commitment to protecting U.S. forces combined with an ability to rapidly bring to bear the overwhelming

power of U.S. military capabilities will form the backbone of military deterrence against any aggressor in the post-CWC world.

The treaty recognizes the need for States Party to the Convention to continue with CW defense programs. This right is clearly and unambiguously provided in Article X of the Convention—which states, "Nothing in this Convention shall be interpreted as impeding the right of any State Party to conduct research into, develop, produce, acquire, transfer or use means of protection against chemical weapons, for purposes not prohibited under this Convention." Also Article II includes in its definitions of purposes not prohibited the protection against chemical weapons. The Convention also subjects these programs to monitoring and verification which helps ensure that such activities cannot be used to hide offensive programs. To ensure that U.S. soldiers, sailors, airmen, and marines are the best protected and best equipped fighting force for operations on a nuclear, chemical or biological (NBC) battlefield, DOD has developed a centralized management process that serves to coordinate the Services requirements in these areas.

U.S. NBC defensive programs will continue in accordance with the provisions of the treaty and the DOD will continue to provide U.S. forces the best protection available. Nothing in the treaty restricts U.S. activities in this regard.

General Shalikashvilli emphasized his view of the importance of a robust chemical defense program:

> * * * not only to protect U.S. forces but also to ensure their combat effectiveness in a chemical environment. A well trained and protected force is not as vulnerable to a chemical weapons attack as a force lacking these essential attributes. These factors would naturally impact the decision of any would be aggressor when contemplating the use of chemical weapons against U.S. forces.

So long as the United States and its allies face significant chemical warfare threats, it will be incumbent upon the Government, including the Congress, to ensure that funding for chemical defense programs remain at a realistic and appropriate level.

4. Riot control agents

One of the more contentious areas of debate is that of riot control agents. The Convention bans the use of riot control agents as a "method of warfare," but does not ban their use for law enforcement purposes. The committee devoted considerable time and attention to this issue, as it did in 1975 with regard to the ratification of the Geneva Protocol of 1925.

U.S. policy regarding the use of riot control agents is currently governed by Executive Order 11850 which came as the result of a 1975 agreement between the committee and the Ford administration. The administration has stated that during negotiations on the Convention, it tried to secure an interpretation of riot control agents that would be consistent with Executive Order 11850. Several countries, including "key" U.S. allies, opposed the United States on this issue and negotiators were unable to get the U.S. position formally adopted.

After the Convention was signed by President Bush, the Clinton administration conducted an interagency review of the riot control issue. The administration decided that the current international interpretation of the phrase "method of warfare" precludes two uses of riot control agents outlined in Executive Order 11850. Those prohibited uses, both of which involve situations in which combatants and noncombatants are intermingled, are where civilians are used to screen attacks and in rescuing downed aircrew. The Clinton administration has stated that if the current international interpretation were to change, U.S. policy could also change. The Administration has also stated that it will issue a new Executive order outlining the new policy upon receiving the Senate's advice and consent to ratify the Convention.

The Convention's list of purposes that are not prohibited specifically includes "Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare" and "Law enforcement and domestic riot control" Art.II(9). Thus, the use of riot control agents is permitted for the following uses deemed essential by the U.S. military: normal peacekeeping operations, law enforcement operations, humanitarian and disaster relief operations, counter-terrorist and hostage rescue operations or noncombatant rescue operations. The Convention also allows the use of riot control agents in riot control situations in areas under direct U.S. military control, including against rioting prisoners of war, and to protect convoys from civil disturbances, terrorists and paramilitary organizations in rear areas outside the zone of immediate combat.

In a response to a question for the record, Chairman Shalikashvili said that, although he and the Joint Chiefs believe that several arguments can be made for using riot control agents in all cases permitted by Executive Order 11850, they

> * * * also recognize that a unilateral U.S. decision to adopt this position could cause serious divisions with key allies whose cooperation is essential to effective implementation of the [Convention.]
>
> Accordingly, the Joint Chiefs decided that the benefits of the [Convention] outweighed the importance of preserving the ability to use riot control agents in the prohibited cases, and that they would support the consensus reached within the Administration on the [riot control agents] issue.

The claim that riot control agents are exempt from all parts of the Convention except its prohibition against actual use as a method of warfare is incorrect, unnecessary, and dangerous to U.S. security.

Riot control agents are not exempt. The status of riot control agents is clearly spelled out in Article II of the Convention. They are defined as "Any chemical not listed in a schedule, which can produce rapidly in humans sensory irritations or disabling physical effects which disappear within a short time following termination of exposure." Art. II(7).

This would include, for example, the widely used irritant CS and also, if present development programs succeed, powerful narcotic-

like (opioid) chemicals intended to cause temporary paralysis and other chemicals intended to cause temporary disorientation.

Every riot control agent, as defined above, is also a "toxic chemical," defined in the Convention as "Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals." Art. II(2).

The Convention's definition of "chemical weapons," to which its prohibitions of development, possession, and transfer apply, is "Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes." Art.II(1).

It follows that the status of riot control agents, like any other toxic chemicals and munitions designed for their delivery depends on their intended purpose, so long as their types and quantities are consistent with such purpose.

The Convention's definition of chemical weapons, based on purpose rather than on the chemical identity of a substance, underlies the entire Convention. It enables the Convention to deal with dual-use chemicals and with chemicals that have not yet been discovered, protecting peaceful uses and accommodating the inevitable advance of science.

The specific inclusion of "law enforcement including domestic riot control purposes" in the list of purposes permitted by the Convention underscores the fact that riot control agents are subject to the same definition of chemical weapons as all other toxic chemicals.

5. Russia and cheating

The committee had several questions regarding Russian compliance and reports of continued Russian clandestine chemical weapons activities. Specifically, the committee was concerned with allegations made by the Russian scientist, Dr. Vil Mirzayanov, that the Russians had continued to develop and store binary chemical weapons and that loopholes in the treaty would allow the Russians (or anyone else) to continue developing new chemical agents. The committee was also concerned with Russia's ability to meet its obligation under the Convention to destroy its chemical weapons stockpile within 10 years after the Convention enters into force.

Charges that a new generation of nerve agents has been developed and that Russia has been covertly disposing of chemical weapons are deeply disturbing. The Russian government must satisfactorily answer those allegations. Also, it must remove carryovers from the Soviet era that may be responsible for these activities and infuse its chemical weapons destruction program with a sense of purpose by appointing officials who are committed to chemical disarmament and have the authority to make difficult decisions. For its part, the Convention can be an impetus to keep Russia headed down the path toward chemical weapons disarmament. Without the Convention, the United States and the West will not have the verification tools needed to clarify matters such as those currently in question. The Convention, in short, can provide additional leverage to induce accountability on the part of the Russian government.

In an article published in October 1995, Russian scientist Vil Mirzayanov stated: "To the best of my knowledge, the development, testing and production of chemical weapons has stopped in Russia,

partly because of * * * economic circumstances and partly as a result of the attention I drew to the situation." Mirzayanov went on to emphasize that, contrary to his initial assessment, he now understood "that the CWC provides the means to bring the Russian chemical weapons complex under international monitoring." Mirzayanov concluded that "the key to confronting all these [chemical weapons] problems lies in the CWC; there is no time to waste in ratifying and implementing this important treaty."

In response to questions for the record, ACDA stated that the U.S. government has "voiced its concerns to the highest levels of the Russian government * * *" and that the U.S. Government expects the Russians to clarify the nature of their chemical activities and to "adhere to the spirit of the agreements" even though they are not in force yet. The administration also promised to submit a report to the committee on Russian compliance with existing bilateral chemical and biological weapons agreements. The United States has also stressed to the Russian Government that it expects Russia to clarify the nature of its chemical weapons activists and to adhere to the spirit of the agreements it has signed banning development and production of such weapons, even though they are not yet in force.

On its part, the Russian Government committed to ratification of the CWC as rapidly as possible and its entry into force at the earliest possible date at the 1994 Moscow Summit. As part of its commitment to early ratification, the Duma began hearings on the CWC on March 24, 1994. President Yeltsin reaffirmed Russia's commitment to CWC ratification in a meeting with the U.N. Secretary General in October 1995.

As far as "loop holes" are concerned, Mirzayanov's claims are mistaken. In fact, the Convention does provide for the schedules to be amended and the definition of "chemical weapons" was specifically written to include unknown or future chemicals of concern. States Parties are required to make declarations in detail of any chemicals that meet the Convention's definition of chemical weapons, whether those chemicals are listed on the Schedules or not. The Schedules themselves are designed to be open-ended, not a final, definitive list. Thus the Convention is designed to grow with scientific developments and the declaration and inspection provisions of the Convention cover almost every aspect of a chemical weapons program. Moreover, States Parties have the right to request a challenge inspection of any location or facility located in any place under the jurisdiction or control of any other State Party if they have cause to believe illicit chemical activities are being conducted there, whether the location or facility was declared or not. Thus if the United States, or any other State Party, has reason to suspect that the Russians are developing new chemical weapons, a challenge inspection can be requested.

In October 1995, Vil Mirzayanov acknowledged that his claims regarding the CWC were in fact mistaken:

> Initially, I too objected to the CWC, which I assessed as being inadequate for the task of eliminating chemical weapons * * * What I did not understand when I first spoke out on these issues is that the CWC's negotiators build flexibility into the CWC to permit it to adapt to new

scientific and technical developments. This adaptability was prudent because science does not stand still. The treaty contains provisions to permit additions to the list of banned and controlled chemicals and to improve inspection techniques and technologies to keep pace with such developments."

The CWC is clear with regard to obligations regarding chemical weapons. A State Party is required to declare in detail all chemical weapons it owns or possesses as well as any other chemical weapons located in any place under its jurisdiction or control. It must also provide inspectors access to such weapons for initial inspection to verify the declarations, routine inspections of storage until destruction, and monitoring of actual destruction.

States Parties must make declarations on chemicals that meet the CWC definition of chemical weapons, whether or not such chemicals are listed in the Schedules of chemicals contained in the Convention. The Schedules of chemicals in the CWC are not intended to be exclusive, but open-ended.

The operative provision for CWC coverage of chemicals of concern is the definition of chemical weapons. This definition was designed to facilitate verifications and to preclude loopholes with regard to unknown or future chemicals of possible concern. Thus, "chemical weapons" applies, inter alia, to "toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes." A toxic chemical is defined as "any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or their method of production, and regardless of whether they are produced in facilities, in munitions [e.g. binary] or elsewhere." Nonprohibited purposes specified in the CWC are: "(a) industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes; (b) protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons; (c) military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare; and (d) law enforcement including domestic riot control purposes."

The definition of chemical weapons, in particular, which allows for use of toxic chemicals for nonprohibited purposes "as long as the types and quantities are consistent with such purposes," is intended to provide the basis for inspectors to question findings of chemicals which seem to be inconsistent with their use for nonprohibited purposes. In other words, States Parties must be able to justify the types and quantities of such chemicals or face suspicion and potential follow-on action from the CWC organization.

A further note of explanation on the open-ended schedule of chemicals may be useful. The Annex on Chemicals contained in the CWC contains three categories of treaty controlled chemicals (designated Schedules 1, 2, and 3 in decreasing order of perceived risk) based, inter alia, on the toxicity of the chemicals, whether they have been stockpiled as chemical weapons, their potential role in the production of chemical weapons, and the degree to which they

are used in industry. This Annex also provides criteria to be taken into account in future placement or rearrangement of chemicals on the schedules. To allow for potential future chemicals of concern, the Annex is flexible, permitting additions or changes without a formal amendment process.

The obligations of the CWC will require States Parties to make detailed declarations on chemical weapon-relevant facilities and activities, subject declared facilities to routine inspection and subject all facilities and locations to challenge inspections. Thus the CWC will put Russian activities under international scrutiny and provide the international community with mechanisms to respond to noncompliant action with punitive measures or possible sanctions.

At the January 1994 summit, Russia signed the implementation documents for Phase II of the 1989 Wyoming Memorandum of Understanding [MOU]. This new phase committed the United States and Russia to a very detailed data exchange on chemical weapons stocks and facilities, followed by on-site inspections of five declared facilities in their respective countries.

The Russians provided their Phase II data in the spring of 1994. After receipt of the Russian data, the United States submitted questions to the Russians asking for clarification of their data declaration. Russian answers provided some clarification of the Russian data, although several key questions and concerns were not resolved.

Between August and December 1994, the United States conducted five MOU-mandated inspections in the Russian Federation, three of which were challenge inspections. These inspections were carried out at three Russian chemical weapons storage facilities, one Russian chemical weapons production facility, and one Russian chemical weapons development facility.

The administration believes that the Wyoming MOU has provided valuable practical experience which will be useful in implementing the CWC. This applies to the declaration and inspection of both chemical weapons and chemical weapons-related facilities. As a consequence of the MOU, Russia and the United States have identified and resolved numerous practical problems that could arise during implementation of the Convention. Indeed, the two sides have based several of their recommendations at the CWC Preparatory Commission on the Wyoming MOU experience. This includes, for example, the development of standardized formats for declarations on chemical weapons and chemical weapons-related facilities.

Although many issues that have arisen during MOU implementation have been resolved successfully, the United States and Russia are continuing to discuss several MOU issues. The administration acknowledges that Russian implementation of the MOU has been problematic. The United States believes that this can be explained, in part, by substantive differences within the Russian interagency process over how to handle their data declaration. In addition, the 1994 firing of Anatoliy Kuntsevich, former Chairman of the President's Committee on Convention-related Problems of Chemical and Biological Weapons, left a vacuum, creating a certain amount of confusion within the Russian government regarding chemical weapons policy.

The administration has had and continues to have an ongoing dialog at high levels of the Russian Government on Wyoming MOU issues. Senior U.S. officials continue to discuss Russian implementation of the Wyoming MOU with various senior-level Russian officials. Moreover, President Yeltsin has agreed on the importance of resolving outstanding issues related to implementation of the MOU. U.S. officials believe that their dialog with the Russians has helped resolve a number of MOU issues, and that continuing that dialog offers the best opportunity for resolving those issues that remain.

Obtaining more detailed data about Russian stockpiles is one of the objectives of Phase II of the 1989 MOU. The United States provided the Russians with our data and we have now received all of the Russian's Phase II data. The United States is in the process of translating and analyzing this data. If the United States detects discrepancies in Russian declarations, these discrepancies will be pursued with the Russian Federation. U.S. officials believe that a continuing dialog with the Russian Federation offers the best opportunity to resolve any such discrepancies.

The implementing documents for the June 1990 "Agreement on the Destruction and Non-Production of Chemical Weapons and Measures to Facilitate and Multilateral Chemical Weapons Convention" (known as the Bilateral Destruction Agreement or BDA) have yet to be agreed by Russia. As a consequence, the BDA is not yet in force. Key remaining issues with the BDA concern the conversion of their former chemical weapon production facilities to permitted commercial use. The ongoing dialog with Russia makes clear that any chemical weapon production facilities which are to be converted are to be done so in accordance with CWC provisions. Additionally, if a State Party's request to the CWC organization for approval of convert facilities is approved, such facilities will be restricted in their chemical activities and subject to very stringent verification.

It should be noted that the administration strongly supports ratification of the CWC, even if the BDA is not yet in force. The BDA is important in its own right and the United States is continuing to work to resolve Russian concerns regarding its provisions on conversion. However, the BDA is less relevant that it was four years ago, when the United States believed the CWC to be years away. The purpose of the BDA, at that time, was to commit Russia to chemical weapon destruction as early as possible and to facilitate progress on the CWC. Unlike the CWC, the BDA does not require total destruction of chemical weapon stocks nor provide an international process for resolving compliance concerns. The United States is also concerned about the acquisition and potential use of chemical weapons by other countries as well as Russia and believes the CWC should not be delayed.

In anticipation of the BDA, the CWC specifically provides for such bilateral agreements to operate under the CWC, as long as their provisions are consistent with the CWC. The BDA is expected to meet this criteria, since relevant CWC provisions were drawn from the BDA and the BDA implementing documents were completed after the CWC was finished and signed.

As far as chemical weapon destruction is concerned, U.S. insistence, first in the U.S./Soviet BDA of 1990 and later in the CWC, that destruction of chemical weapons stocks be done in a safe and environmentally sound manner has contributed to grassroots political process of "NIMBY"—"not in my backyard" which has complicated agreement on a Russian chemical weapons destruction plan but also complicates a return of the old system.

The administration believes that Russia will have trouble meeting the 10 year destruction deadline. The Russians made it clear to the United States during the final months of chemical negotiations in the Conference on Disarmament that this might be the case. Therefore, the Convention contains provisions that allow for a State Party to request and have approved under certain conditions, an extension of the destruction period of up to five years. Additionally, the United States has started cooperation programs to help the Russians complete the destruction process within the Convention's time frames.

Several Senators have recognized the effect that Russia's internal turmoil is having on its ability to carry out its arms control commitments. They have spearheaded the development of a policy of cooperative threat reduction that seeks to increase U.S. security by constructively addressing the problems presented by Russia's weapons of mass destruction. However, the bulk of the Nunn-Lugar funds has been earmarked for nuclear arms. Using the same carrot-and-stick approach followed in the nuclear sphere, the United States should redouble its efforts to assist the Russia chemical weapons destruction program. This argument would hold true even if the Convention were not before the Senate for its advice and consent to ratification.

The administration is working with the Russian Government in a number of areas to help them establish a realistic, executable CW destruction program. The United States has thus far identified $55 million for this assistance, selected the Bechtel Corporation to help the Russians develop a Comprehensive Implementation Plan (CIP), and is setting up a Central Analytical Laboratory (CAL) to process environmental samples, provide training, and perform other essential chemical weapon destruction functions.

Subject to Congressional approval and funding, U.S. assistance is expected to transition from planning and preparation support to assistance directly supporting the design, construction, and equipping of Russia's first nerve agent filled munitions destruction facility. During 1995, Russia and the United States moved forward with the Joint Evaluation Project, a technical evaluation of the Russian two-step (neutralization/bituminization) chemical destruction process. During the first phase, which was successfully completed in a U.S. laboratory using U.S. nerve agent, the Russian process was found to be 99.9999 effective against sarin, soman and VX. The second phase is now proceeding in a Russian laboratory, using actual Russian munitions grade agent.

Also during 1995, a series of executive-level U.S.-Russian meetings were held to better define United States and Russian roles and responsibilities as well as to clarify the scope and form of possible future U.S. assistance. As a result of these discussions, a decision was made to narrow the scope of the CIP to a single site spe-

cific implementation plan for the Shchuch'ye site. It is anticipated that the Shchuch'ye Feasibility Study and CIP will serve as a model for the remaining nerve agent munitions storage sites in Russia. Other U.S.-Russian discussions have focused on a master schedule for the entire Russian destruction program out to the year 2001, and the CAL. DOD also moved forward in procuring three mobile analytical laboratories that will provide Russia the ability to conduct chemical agent monitoring at chemical weapons storage sites and chemical weapon destruction sites.

During the past year, Russia has taken a number of steps to facilitate progress toward destruction of its chemical weapons. In 1995, President Yeltsin signed a Presidential decree which, inter alia, directed that CW destruction would occur within the republics in which the weapons were stored; an interagency commission for chemical weapons destruction headed by the President's national security advisor was established; the President's Committee (PC) was designated overall coordinator for the Russian CW destruction program; the Ministry of Defense was designated executive agent for CW destruction; Shchuch'ye was selected as the location for Russia's first nerve-agent destruction facility; and, the Moscow State Scientific Research Institute of Organic Chemistry and Technology (GosNIOKhT) was selected as the location for the Central Analytical Laboratory.

Also during 1995, the President's Committee submitted a draft plan to the government establishing a framework to speed preparations for Russian chemical weapons destruction; a separate line item for chemical weapons destruction was established in the government's budget; and, a protocol was signed between Kurgan officials and the Ministry of Defense to begin the site selection process for the Shchuch'ye destruction facility. The signing of the protocol provides MOD approval to begin in earnest preparations for the construction of the pilot chemical weapons destruction facility. These developments are clear indications of increased Russian awareness of, and preparations for, meeting its chemical weapons destruction obligations under the CWC.

The Russian Government has formally stated its commitment to become a Party to the CWC, as recently as July 22 at the Plenary meeting of the CWC Preparatory Commission. Russia announced that it is seeking the speedy submission of the Convention to the Russian parliament for ratification.

In the administration's view, the Russians have also reflected concern about being left behind. The administration believes that the best way to promote Russian ratification is to proceed with our own ratification, as all our major NATO allies have done, and to bring the CWC into force as soon as possible, while at the same time trying to address Russian concerns in a manner consistent with our own interests.

Although Russian officials recently stated they believe the bilateral agreements have fulfilled their useful role, which, in large part, paved the way for the successful conclusion of the CWC, they have also assured the administration that they will not renege on the agreements they have made. The administration continues to press Russia at the highest levels on the need to resolve all outstanding CW issues. It was agreed at the Gore-Chernomyrdin Com-

mission meeting in July to have a special group address CW issues. ACDA Director John Holum is head of the U.S. side and Yuri Baturin, head of the Interdepartmental Commission on Chemical Disarmament (ICCD), is head of the Russian side. The Russians have also agreed to host a visit to Volgograd to address specifically the issue of conversion of CW production facilities.

Secretary of State Christopher argued before the Senate Foreign Relations Committee that: "Ratification of this Convention not only represents a remarkable opportunity to strength our own security, it denies us no option that we would ever wish to exercise. With the dramatic changes of the past decade, the threat of a massive chemical attack from the nations of the former Soviet Union has been drastically reduced. Under American law, the United States is already required to destroy the vast majority of our chemical weapons stockpile by 2003. By imposing an international legal obligation to destroy chemical weapons, the Chemical Weapons Convention puts all other states capable of deploying chemical weapons—including Russia—on the same footing as we are."

Secretary of State Christopher added: "By ratifying the Convention, we will add the force and weight of the entire international community to our efforts to assure the destruction of Russian chemical stocks. Our action will also spur other nations such as China to ratify and joining the regime."

In his testimony before the Senate Foreign Relations Committee, Mr. Michael Moodie, President of the Chemical and Biological Arms Control Institute, said: "ratifying the Convention [puts] pressure on Moscow—provides us more leverage. Until the United States acts, hardliners in Moscow will feel no pressure to do anything, and are free to postpone action indefinitely. Unless we act, we give nothing to those in Russia, such as President Yeltsin, who have publicly committed Russia to implementing the Convention."

6. Non-lethal weapons development.

The administration indicated that the Convention does not restrict nonlethal weapons "that exert their effects by nonchemical means." The Convention's definition of chemical weapons is "toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes." Toxic chemicals themselves are defined as "any chemical which through its chemical action on life processes can cause death, temporary incapacitation, or permanent harm to humans or animals." The development of nonlethal weapons which function on their physical properties, such as stickiness or slipperiness, and not through chemical action on life processes, will not be prevented by the Convention. The administration has made clear that it will ensure that any nonlethal programs it undertakes are in conformity with U.S. treaty obligations, including those under the CWC.

Moreover, in the committee's judgment, the United States would be well advised to explore vigorously the workability and applicability of various kinds of nonlethal weapons and devices. Considerable research has been done with regard to the value of nonlethal equipment and materials to meet various military objectives. Developments in recent years appear promising. The committee be-

lieves the President should give high priority to the development of nonchemical, nonlethal alternatives to riot control agents in military situations in which combatants and noncombatants are intermingled.

7. Protecting national security information

Can the United States protect the privacy of our people and businesses, and our national security information and industrial technology, from compromise through the CWC's verification system? Within the Convention, the intrusiveness of many of the verification provisions had to be balanced against legitimate national security, and Constitutional concerns. Also, the transparency called for in the declaration and verification regimes had to be balanced with the need to protect national security information. In DOD's view, the balance between effective verification of the Convention and the protection of DOD's national security concerns has been achieved.

Safeguards are provided against frivolous inspection demands. An inspection team must strictly observe its inspection mandate. The team is not allowed to collect or retain information that is not related or relevant to the object and purpose of the Convention. Many of the declared facilities that are subject to routine inspection will negotiate facility agreements. Consistent with the CWC, these agreements will address in detail the degree of access, the scope of information provided and any sample taking or monitoring that is to be conducted at the particular facilities.

These protections apply particularly to challenge inspections. Under a challenge inspection, a State is allowed up to 120 hours from the time it is notified of an inspection until it must provide access to the requested inspection site. During this time, the inspected state and inspection team negotiate the nature and extent of access within the inspection site. The inspected State also, as stated in the Convention, " * * * has the right under managed access to take such measures as are necessary to protect national security." Such measures could include but are not limited to shrouding, removing sensitive papers from the area, or restricting sample analysis. The inspected State may also take into account, "any constitutional obligations it may have with regard to proprietary rights or searches and seizures." These powerful protections are balanced with the obligation not to use them to evade compliance. Accordingly, if a State provides less than full access it must " * * * make every reasonable effort to provide alternative means to clarify the possible non-compliance concern * * * "

It is quite possible that Department of Defense facilities, both government sites and civilian plants with DOD contracts, could be challenged under the CWC. In such cases, DOD has the ability to inform officials those sites quickly and to prepare them properly for inspection through the Defense Treaty Inspection Readiness Program (DTIRP), which is managed by the On-Site Inspection Agency (OSIA).

Escort teams provided by OSIA will accompany the international CWC inspection teams to DOD-related facilities for the duration of their stay on U.S. territory. OSIA personnel have experience from other treaties and the agency is fully staffed with linguists and

treaty experts who will ensure that officials from the inspected DOD facility are fully cognizant of the rights and obligations mandated by the CWC.

In the event of a challenge inspection, DoD feels that the provisions for negotiated or "managed access," which have been crafted into the CWC by U.S. negotiators will enable inspected facilities to satisfy any concerns about treaty compliance while simultaneously ensuring that U.S. national security is not jeopardized or compromised in any way. Managed access will give officials at the challenged site the right to offer reasonable alternatives to full access and to negotiate levels of access in areas which may contain classified or proprietary information not related to the CWC.

Like DOD, industry was closely involved in developing plans for compliance. Given this background, the Administration believes the risk of industrial espionage and compromise of national security information is very small.

8. The impact on anti-terrorism efforts

The U.S. Government's antiterrorism efforts must include prohibiting terrorists from acquiring weapons of mass destruction.

The cowardly act in Atlanta during this summer's Olympic games reminded us once again that the United States is not immune to terrorism and that it must be the leader in the international fight against terrorism. Our effort must include doing everything we can to meet one of the most urgent emerging threats to the national security of the U.S.—future terrorist attacks which involve weapons of mass destruction.

In this regard, the CWC is a useful and readily available tool in the fight against terrorism. Together with the implementing legislation, required of every party, the CWC will serve as a major deterrent against chemical terrorism, where for the first time in many countries, the production and possession of chemical weapons will be a crime.

The Chemical Weapons Convention is both an arms control and nonproliferation treaty. The CWC bans the development, production, acquisition, stockpiling, retention, transfer and use of chemical weapons. Although the CWC was not designed to prevent chemical terrorism, certain aspects of the Convention, including its law enforcement requirements and nonproliferation provisions, will strengthen existing efforts to fight chemical terrorism.

If the CWC were in force today, it would be both more difficult and more costly for terrorists to acquire or use chemical weapons.

One of the key tools in combating terrorism is early intelligence. The CWC will provide access to international declaration and inspection information and will strengthen the intelligence links between the United States and the international community that will help us detect and prevent chemical attacks.

Furthermore, implementing legislation required by the CWC will enhance our authority to investigate and prosecute CW-related activities. The implementing legislation will broaden this authority to include development, production, transfer or acquisition of a chemical weapons agent. Under current law, our law enforcement authorities investigate on the basis of suspicion of conspiracy to use a chemical weapon. The CWC implementing legislation will, con-

sequently, improve the prospects for detection, and early prosecution.

Moreover, the significant penalties that will be imposed on any person who knowingly engages in this broader range of prohibited CW-related activities will aid in deterring criminal activities.

The CWC also requires parties to eliminate their CW stockpiles and to control transfers of certain dual-use chemicals that can be used to make chemical weapons. This will help deny terrorists easy access to chemical weapons.

Japan serves as an example of the importance of this treaty and its implementing legislation in combating the terrorist threat. Within 10 days of the poison gas attacks in the Tokyo subways, the Japanese launched the effort to ratify the CWC by enacting the CWC implementing legislation. The Japanese completed ratification of the CWC a month later.

Law enforcement benefits

Implementing legislation required by the CWC will strengthen legal authority to investigate and prosecute violations of the treaty. It will also make the public more aware of the threat of chemical weapons and of the fact that the acquisition of such weapons is illegal.

Investigation. For example, the proposed U.S. implementing legislation contains the clearest, most comprehensive and internationally recognized definition of a chemical weapon available. It is far more precise than the term "poison gas" contained in Title 18 of the Criminal Code. The definition contained in the implementing legislation will enable an investigator to request a search warrant on the basis of suspicion of illegal chemical weapons activity (such as production of chemical agent), rather than suspicion of conspiracy to use a weapon of mass destruction, as under current U.S. law. By providing law enforcement officials and prosecutors a more precise legal basis for investigating the development, production, transfer or acquisition of chemical weapons. CWC implementing legislation improves prospects for detection, early prosecution and possibly even prevention of chemical terrorism in the U.S.

Prosecution. The proposed U.S. implementing legislation will also aid prosecution. Because possession of a chemical weapon (whether or not it is intended to be used) would be a violation of the Convention, it would also be illegal under the CWC implementing legislation and thus a sufficient basis for prosecution. In contrast, under existing U.S. legislation, possession of a chemical device that could produce poison gas without the use of explosives or a detonator might not offer sufficient grounds for prosecution. In this case, prosecutors would have to rely on legislation intended for other purposes, such as a law against conspiracy to use a weapon of mass destruction.

Penalties. Under the proposed U.S. implementing legislation any person who knowingly engaged in prohibited CW-related activities short of actual use of a chemical weapon could be subject to the maximum punishment of life in prison or any term of years. In contrast, existing U.S. legislation would require proof of involvement in an attempt or conspiracy to use poison gas; these criteria are

much less precise and thus more difficult to fulfill than those in the implementing legislation.

Trade Controls. Proposed U.S. implementing legislation would also supplement existing export/import control laws and regulations by strictly controlling the import and export of those chemicals posing the greatest risk (listed in Schedule 1 of the CWC) and also regulating the production, acquisition, retention, transfer or use of such chemicals within the U.S. Fines of up to $50,000 could be imposed for unlawful production, acquisition, transfer, etc. of such chemicals.

Emergency Authorities. The proposed U.S. implementing legislation contains authority to seize, forfeit, and destroy chemical weapons. This important provision protects the constitutional rights of property owners while allowing law enforcement officials to seize and destroy a chemical weapon under exigent circumstances (i.e. where harm is imminent or likely). This provides additional authority to prevent a potential catastrophe and save lives.

Public Awareness. Finally tips by concerned private citizens are the lifeblood of successful police investigations. Enactment of the CWC and its implementing legislation will ensure, due to reporting and inspection requirements and penalties for violations, that private companies and concerned citizens are more alert to and more likely to report any suspected chemical weapons-related activities.

Nonproliferation benefits

Nonproliferation provisions of the CWC will deny terrorists easy access to chemical weapons by requiring Parties to eliminate national stockpiles and by controlling transfers of certain chemicals that can be used to make chemical weapons. In particular, the CWC requires Parties to cease transfers of certain CW agents and CW precursor chemicals to non-Parties and restrict such transfers to Parties. In addition, reporting is required on anticipated production levels of all listed chemicals and anticipated imports and exports of Schedule 1 and 2 chemicals. These measures will help restrict access to key chemicals, while also helping to alert law enforcement and other government officials to suspicious activities.

C. COMMERCIAL CONSIDERATIONS

1. Constitutional issues

Several questions were raised regarding how U.S. citizens' Fourth Amendment (protection against unreasonable search and seizure) and Fifth Amendment (self-incrimination) rights would be affected by the Convention's inspection provisions.

In an answer to a question for the record, the administration stated that both the routine and the challenge inspections of private facilities will be initiated on the basis of consent. However, in the presumably rare case in which, consent is denied, most inspections would then be conducted using search warrants obtained on the basis of administrative probable cause, i.e., the Government demonstrates that the facility fits within a reasonable legislatively mandated inspection scheme. This is the procedure used in similar inspections pursuant to domestic legislation, such as toxic substance emissions. Some inspections of facilities that produce Sched-

ule 1 chemicals may be conducted without any warrants, but those inspections will comply with the conditions of the Supreme Court exception to the warrant requirement of inspections of "pervasively regulated industries."

The United States expects to conduct challenge inspections of other private facilities pursuant to administrative search warrants in order to "allow the greatest degree of access," as required by the Convention. But the U.S. negotiated the addition of a corollary right to "take into account any constitutional obligations it may have with regard to * * * searches and seizures" in relation to the Convention's challenge inspections. Thus, the U.S. will not be in violation of the Convention if access is limited or severely restricted because it proved impossible to obtain that access in a constitutionally permissible manner. This specific right to take constitutional obligations into account regarding searches and seizures also applies to routine inspections of "other chemical production facilities," since the rules for routine inspections of these facilities incorporate this right by reference.

Regarding Fifth Amendment rights, the Administration stated that:

> The Fifth Amendment rights of personnel at U.S. facilities subject to inspection are also protected. While the [Convention's] Verification Annex provides that inspectors have the right to interview any facility personnel in the presence of representatives of the inspected State Party the [Convention] does not require that facility personnel answer the inspectors' questions, and therefore their Fifth Amendment rights are protected. The Administration's proposed draft [Convention] implementing legislation does provide for the issuance of a subpoena to require testimony of a witness and provisions of answers in order to meet the U.S. Governments' obligations under the [Convention.] However, the proposed legislation contains no provisions for compelling facility personnel to be interviewed or to provide answers to inspectors' questions.

In addition to the constitutional difficulties, some companies also fear the potential loss of trade secrets through espionage or inadvertent leaks. Industry will also be affected by the Convention requirement that civilian industries report production, stockpiles and transfers of controlled chemicals, and by Convention restrictions on the export of controlled chemicals and technology to non-signatories.

The Chemical Manufacturers Associations (CMA), the Synthetic Organic Chemical Manufacturers Association (SOCMA), the Pharmaceutical Research and Manufacturers of America (PhRMA), the Biotechnology Industry Organization (BIO), the American Chemical Society (ACS), and other trade associations representing the international chemical industry were active participants in developing provisions to protect confidential business information during the treaty negotiations. The Convention contains several provisions to protect against the loss of proprietary information, namely Article VI (Activities Not Prohibited Under the Convention) and its related parts in the Verification Annex (Part II: General Rules of Verifica-

tion, Part III: General Provisions for Verification Measures Pursuant to Articles IV, V and VI, Parts VI-VIII: Regimes for Declarations, Inspections and Transfers of Schedules 1, 2 and 3, respectively, and Part IX: Regime for Declaration and Verification of Other Chemical Production Facilities). Additionally, certain provisions in Article IX and the Verification Annex Part X on challenge inspections provide protection against loss of sensitive non-chemical weapons related information. Finally, the Annex on the Protection of Confidential Information, the "Confidentiality Annex", stipulates the treatment of confidential information, relevant aspects of employment and conduct of personnel, measures to protect sensitive installations and to prevent unauthorized disclosure of data during on-site inspections, and procedures in case of breaches or suspected breaches of confidentiality. These provisions are for both routine and challenge inspections.

During routine inspections, confidential business information can be safeguarded first through the facility's opportunity to have a facility agreement negotiated with the Organization specifying the type of access and the information to be collected. Plant officials do not have to grant the inspection team access to commercially sensitive areas unrelated to the Convention or to data that do not directly affect verification. Information that is not within the scope of the routine inspection regime includes proprietary information regarding the technical details of the production process (e.g. temperature, pressure or catalysts) and marketing information. Inspected facilities can store sensitive documents that the inspection team must consult repeatedly (e.g., photographs, process flow charts, or notebooks) in a safe located at the facility. The inspected facility can take any requested photographs or samples instead of allowing the inspection team to do it. The inspected State Party is also allowed to inspect any instrument used or installed by the inspection team and to have it tested in the presence of representatives of the inspected State Party.

Under challenge inspections, States Parties have the right and ability to manage access to their facilities by negotiating the extent and nature of that access within the site (beyond that provided under routine inspections at declared facilities). The inspected facility can also negotiate the activities of the inspection team and the information it provides. States Parties also have the right to take steps to prevent disclosure of sensitive information unrelated to chemical weapons, such as shrouding, turning off computers and covering or putting away papers or documents. States Parties must, however, take steps to provide alternative means to clarify any compliance concerns if the inspectors' access is restricted.

Moreover, the Convention contains provisions for the Executive Council (on which the U.S. is expected to have a permanent seat) to prevent a challenge inspection from being carried out if it determines that the inspection is "frivolous, abusive or clearly beyond the scope of this Convention." The Executive Council can also review the final report of the inspection to determine if "the right to request a challenge inspection had been abused."

2. U.S. Industry and the Chemical Weapons Convention (CWC)

Interest has been expressed in the reaction of chemical industry to the Chemical Weapons Convention and the impact of its provisions on the industry, notably with regard to protection of non-chemical weapons proprietary information, liability and avenues to redress concerns, and costs to industry.

The CWC will have some negative repercussions on the U.S. chemical industry. There are costs associated with the industry's compliance with the convention, in the form of reporting requirements, and verification activities. The industry will have to educate and assign personnel to address those requirements. The chemical industry will have to work with a National Authority, a new governmental body, to implement the Convention. Commercial chemical facilities will be subject to inspections by international teams on relatively short notice. And individual chemical plants are at risk of losing proprietary information or their standing in the community.

Nonetheless, the Chemical Manufacturers Association (CMA), the Synthetic Organic Chemical Manufacturers Association (SOCMA), the Pharmaceutical Research and Manufacturers of America (PhRMA), the Biotechnology Industry Organization (BIO), the American Chemical Society (ACS), and other trade association support the Chemical Weapons Convention (CWC) and believe that treaty compliance will not pose an undue burden on industry. U.S. chemical manufacturers do not make chemical weapons. The industry does produce commercial chemicals that can be illegally converted into weapons. An effective CWC could have the positive effect of liberalizing the existing system of export controls applicable to the industry's products, technologies, and processes.

Fred Webber, the President and CEO of CMA, summed up the industry position in September 1995:

> * * * the U.S. chemical industry has long supported the Chemical Weapons Convention. We helped negotiate that treaty, we've helped draft implementing legislation for it, and we're prepared to live by it * * * The United States must be a leader in stamping out chemical weapons once and for all, and the U.S. must be on of the original ratifying countries.

In March 1996, Mr. Webber continued by saying:

> Fewer than 2000 American companies will be directly affected. Of that number, less than 200 are likely to ever have an on-site inspection * * * It won't put companies out of business. And it won't keep lifesaving pharmaceuticals off the market.
>
> Chemical manufacturers are America's single largest exporting sector. We exported over $60 billion in products and technology last year, with a $20 billion trade surplus * * * If the U.S. does not ratify the treaty, that status will change. Our largest trading partners are also party to the Convention, and will be forced to apply trade restrictions to chemicals that originate here, or that are being shipped here * * * Potentially hundreds of millions of dollars of

lost sales, for no other reason than the U.S. is not part of the CWC.

Honest businesses have nothing to fear. Anyone with other motives will run the risk of getting caught in the act. The treaty is the best means available to prevent legitimate chemicals from falling into the wrong hands.

The hallmark of the CWC is the degree to which the private sector is included in the effort to ban CW production, storage and use. Members of the chemical industry have worked closely with U.S. CWC negotiators for many years to develop treaty provisions designed to safeguard proprietary and confidential business information during inspection and handling of information provided by industry to the CWC organization as well as to deal with a wide range of other issues of concern to industry. This close working relationship has resulted in CWC provisions generally acceptable to and supported by the affected industry. U.S. industry representatives consulted with U.S. Government negotiators on provisions affecting chemical industry, participated in international industry meetings with the chemical weapons negotiators in Geneva, and hosted national trial inspections at chemical and pharmaceutical facilities. They have continued to participate in CWC Preparatory Commission meetings, U.S. Government sponsored industry seminars, in trial inspections and in testing draft CWC declaration formats.

The CWC protects against the loss of proprietary information through a number of provisions. These include inspection procedures designed to allow facilities to protect information unrelated to chemical weapons and the ability to negotiate facility agreements outlining inspection procedures at particular facilities.

Specifically, the provisions for routine inspections protect industry by limiting the number of routine inspections a facility can receive in a year, providing advance notification of inspector arrival, limiting the duration of inspections, and restricting the scope of inspection to the minimum necessary. Additionally, the CWC requires inspections to be carried out in a manner designed to minimize the impact on facility operations.

Additionally, the CWC contains detailed procedures for safeguarding information collected by the international chemical weapons organization. A separate Confidentiality Annex provides procedures governing the protection and release of information and procedures for punitive action against employees who violate these rules.

The administration's proposed Chemical Weapons Convention Implementation Act provides, with limited exceptions, for a blanket prohibition on the disclosure of information or materials obtained from declarations or inspections required under the CWC. In particular, this provision is intended to allow the U.S. Government to withhold such CWC-related information from requests for disclosure under the Freedom of Information Act.

The proposed U.S. implementing legislation contains further provisions for safeguarding confidential business information provided by industry to the USG for communication to the international chemical weapon organization.

The provisions of the CWC and the U.S. proposed implementing legislation address the issue of liability by seeking to prevent liability in the first place. For example, the CWC's verification regime contains a number of provisions for protecting sensitive information unrelated to the CWC from being compromised. These include: the right of the inspected facility to have a facility agreement specifying the nature of access and the information to be collected in routine inspections; the right of the United States to manage access in challenge inspections; and the right of the inspected facility to take requested photographs or samples instead of the inspection team.

Similarly, the CWC protects against damage by the inspectors by, e.g., prohibiting their operation of facility equipment. The CWC Confidentiality Annex also provides for the protection of information designated confidential by States Parties, establishes procedures to address concerns or allegations of breaches of such obligations, and provides for punitive measures where appropriate.

The PrepCom has also recognized that an increased burden on the chemical industry means a substantial administrative burden for the OPCW. The U.S. chemical industry has seen considerable progress in reducing the potential reporting burden through simplified declaration formats. Following a small test of the revised formats by some 25 U.S. companies, the reporting burden should be manageable. Proprietary information should be protected, and the burden should be manageable.

The declaration forms are simple to complete and most firms will not have to reveal any sensitive information. These data declaration forms have been field tested with industry and edited based on comments received. In addition, the forms have been carefully reviewed by the Chemical Manufacturers Association (CMA) and its comments have been incorporated as well.

Commerce estimates that about 2,000 plant sites will be required to file data declaration forms. Of these 2,000 plant sites, Commerce estimates that over 90% belong to a basket category called "Unscheduled Discrete Organic Chemicals" (DOC's). The DOC data declaration is a very simple form that asks the company to specify the location of the plant site and its general range of production (i.e., This plant site produced over 2,000 metric tons of DOC's last year.) No other information is requested and the form can therefore be completed quickly.

Note that the DOC form does not ask for information on acquisition, imports, exports or processing. The DOC form does not require that a company even identify the specific DOC chemical produced. All that is required for most DOC's, is a check mark in a box that identifies the aggregate production range. If the plant site produced any DOC's containing phosphorus, sulphur, or fluorine (PSF), then the name of the PSF plant is also required.

Critics allege that such limited information on DOC's certainly won't reveal anything regarding possible CW programs, and although the reporting burden appears rather modest, it is just administrative harassment since the data serves no useful purpose.

The information is requested to identify states that have the technical capability to produce organic chemicals. Many facilities that can produce DOC's not listed on any of the three CWC Sched-

ules may have the capability to switch production to different product lines, possibly even to CWC Scheduled chemicals. Accordingly, this limited information is requested to keep abreast of facilities that have such potential.

The OPCW will only commence inspections of facilities that produce DOC's at the beginning of the fourth year after entry-into-force (EIF). In the third year after EIF, the Conference of States Parties will decide on the "distribution of resources available" for inspections between facilities that produce DOC's and PSF-Chemicals (DOC's that contain phosphorous, sulfur, or fluorine).

The United States chemical industry is one of the most widely and deeply regulated industrial sectors. The CWC has not been, and must not be, seen as an opportunity to regulate the industry for other policy reasons. The risk of such an expansion is that the costs to industry, and the government, of CWC compliance will be increased, while the treaty compliance effort is reduced. Ultimately, if the U.S. Government imposes a CWC regulatory regime that is significantly more onerous in nature and scope from that adopted by other governments, there are substantial adverse competitiveness implications.

One area of uncertainty arises from the likelihood that the Department of Commerce will be responsible for working with industry to ensure CWC compliance. Unless the Department of Commerce is given the appropriate budget and manpower resources, U.S. regulations and administrative responsibilities under the CWC compliance may fall far short of the intended goal.

The Commerce Department will play the lead role within the U.S. Government for industry compliance with the CWC. As part of this role, Commerce will collect information required by the treaty so that it can be forwarded to the Organization for the Prohibition of Chemical Weapons (OPCW). Commerce is committed to minimizing costs and to maximizing protections of company confidential information.

With regard to data declarations, Commerce:

developed user-friendly forms and instructions to complete them. These materials have been field tested and refined based on industry comments. No information is requested that is not specifically required by the CWC.

will provide substantial assistance to industry in the data declaration process. Specifically, Commerce will offer timely assistance to help firms determine if they have a reporting requirement. If they do have to report, Commerce will assist them in completing the forms.

is developing an automated system that will enable firms to submit declarations electronically.

will protect the confidentiality of information that is submitted. The information management system is in a secure location and will only be operated by staff with appropriate security clearances.

is working as a member of the U.S. delegation to the CWC PREPCOM to narrow the scope of products that will be reported as "Unscheduled Discrete Organic Chemicals (DOC's). Accordingly, we expect to exclude a wide range of commercial facilities from any data declaration requirements.

The Commerce Department's CWC Information Management System will be in a secure location that requires a special key card for access. The system itself will be operated only by staff with appropriate security clearances. Commerce has extensive experience protecting CBI as part of its overall export licensing operations and will be equally vigilant protecting CWC-related Confidential Business Information (CBI).

Commerce plans to identify firms that are likely to be subject to a routine inspections and work with them to develop draft "facility agreements" to protect CBI. Commerce's objective is to develop draft "facility agreements" before inspections take place so that the equities of U.S. firms are fully protected. Although the formal "facility agreement" is between the State Party (Commerce serving as USG representative) and the international organization, Commerce intends to rely heavily on input from the facility being subject to inspection.

In developing the "facility agreement", Commerce will rely on a firm's determination regarding what constitutes CBI and will protect U.S. firms against frivolous request that may be made by international inspectors. The formal "facility agreements" will set forth the site-specific ground rules for the conduct of inspections and, if carefully crafted, will effectively preclude the loss of CBI and limit frivolous requests made by international inspectors.

Commerce estimates that approximately 140 U.S. plant sites will be subject to routine inspections during the first three years. Routine inspections will focus initially on producers of Schedule 1 and Schedule 2 chemicals.

Challenge inspections are conducted based on an allegation of noncompliance. These inspections may only be requested by a State Party to the CWC and can be directed at declared and undeclared facilities.

Commerce anticipates that there will be very few challenge inspections. If there are any, Commerce expects that they will be directed at U.S. military facilities who are experienced in protecting their sites against espionage. In the event that there is a challenge inspection of a non-Defense facility, Commerce will ensure that the inspection is based on the CWC principle of "managed access." The Commerce approach will be to ensure that the international inspectors pursue the least intrusive means possible to obtain reasonable answers to reasonable questions. Unreasonable questions need not be answered at all.

Finally, it should be noted that there are some legal avenues for redress available in case of loss of confidential business information. U.S. firms and individuals may be able to bring a lawsuit against inspectors and other Technical Secretariat personnel for their unlawful action if the Director-General of the Technical Secretariat waives their immunity from suit in U.S. courts for their official acts, as provided for in the CWC. In addition, these firms might pursue a lawsuit against the United States under the Just Compensation Clause of the Fifth Amendment to the Constitution (Takings Clause).

Given the protection inherent in the CWC and the proposed Act and the extent of potential U.S. Government liability for actions over which it may have little or no control, the Administration be-

lieves that specific provisions for U.S. Government liability for the wrongful acts of Technical Secretariat personnel are not required. However, the administration is continuing to review possible changes to existing law for providing remedies in this area.

Exact costs to industry as a result of their compliance with the CWC are not yet known, but will depend on: the number of affected companies, number of inspections per year (taking into account quotas on inspections and resources of the international inspectorate); the exact formats for declarations; and the amount of preparation each company undertakes for implementation. If one assumes the existence of roughly 2000 CW Convention-related plant sites in the U.S., a total of 30–60 routine inspections per year, as well as use of the existing draft declaration forms and prudent preparations for implementation, the administration estimates the cost to industry to be under $5 million in the first year with decreased annual costs thereafter.

In his testimony before the Senate Foreign Relations Committee, Secretary of State Christopher, said: "If the U.S. is not a State Party, we will be subject to trade restrictions levied by States Parties against non-States Parties. This could have significant economic consequences for U.S. industry."

Mr. Michael Moodie, told the Committee: "if the U.S. is not a party to the CWC, such a situation would have an immediate and chilling effect on commercial trade in chemicals with the U.S. chemical industry branded as a potentially unreliable supplier of chemicals to the global market. The result would be a devastating impact on the U.S. chemical industry's positive balance of trade, which, in 1994, amounted to a trade surplus of $18 billion on exports of $51 billion dollars."

In a letter sent to Senator Lugar on July 18, 1994, former President Bush stated: "My long-standing commitment to banning chemical weapons has been shared by many others on both sides of the aisle * * * I am convinced that the Convention we signed served both objectives, effectively banning chemical weapons without creating an unnecessary burden on legitimate (commercial) activities."

3. Repercussions on U.S. industry if the U.S. does not ratify the CWC

There is a cost to U.S. industry if the United States fails to ratify the treaty. The CWC imposes trade controls on countries that do not participate.

Upon the CWC's entry into force, exports of Schedule 1 chemicals may be made only to another State Party and then only for research, pharmaceutical, medical or protective purposes. The CWC also mandates that, for the first 3 years, trade in Schedule 2 chemicals with non-States Parties is permitted only with "end-user certificates" certifying that the chemicals will not be used for CW purposes. After 3 years, all trade (imports and exports) of Schedule 2 chemicals is prohibited with countries outside of the CWC. Although Schedule 2 chemicals account for a relatively small portion of the U.S. chemicals, the impact on U.S. firms will likely affect trade in other chemicals as well. Companies tend to shop where there are no restrictions and prohibitions, therefore restrictions/prohibitions on trade in Schedule 2 chemicals will likely have a

cascading effect on the overall chemical industry. Since there is ample foreign availability of chemicals in the industrialized world, Japanese and European companies will undoubtedly move to fill the gap in authorized supply that the absence of U.S. availability would create.

The U.S. is the only G–7 country yet to ratify. All of America's major trading partners have already done so.

The Australia Group (AG) and even non-AG countries who ratify the CWC will be required to impose trade restrictions on the United States and a total embargo on exports to the U.S. of Schedule 1 chemicals immediately and on all trade in Schedule 2 chemicals after 3 years. Failure to ratify will effectively place the U.S. in opposition to the principal global agreement to prohibit CW and end America's leadership position in all areas of CW nonproliferation. There will be a heavy price to pay for U.S. industry and for American foreign policy.

Some have suggested that the U.S. wait for a year and see how the CWC is actually implemented before the Senate ratifies. If the Senate waits, the U.S. will not get a seat on the 41 member Executive Council that decides how the CWC is implemented. Membership is particularly critical in the initial stages of the program since the rules of the road will be established in the early years. If the Senate ratifies the CWC in September, the U.S. will be part of the initial club and are assured a seat on the Council. If the Senate ratifies after all the seats are assigned, there will not be another chance for two years. In essence, coming too late to the table ensures that the U.S. will have to comply with operating decisions made without American involvement.

Challenge inspections of small businesses involved in legitimate chemical work are not likely to happen. Requests for challenge inspections will likely be directed at U.S. military facilities or major companies with significant CBI equities at stake. In the unlikely event that a frivolous challenge inspection does occur at small business, Commerce will apply all of the "managed access" protections described above.

D. POPULAR MISCONCEPTIONS OF THE CWC

A popular argument against U.S. ratification of the CWC is that the Convention will not be universal and that some of the signatories and ratifiers will seek to cheat and break the rules and norms set by the Convention to their advantage. That not all members of the international community will sign the CWC and that some of those who do may not abide by their obligations are facts of international life. While these assertions may be true, in and of themselves they are not necessarily reasons to reject the treaty.

First, not all holdouts to signing the treaty are doing so for the same reason. Some may indeed be seeking a CW capability and do not want to have their options closed out by joining the Convention. One could argue that the countries of most serious concern with respect to CW—Iraq, Libya, North Korea—fall into this category. Other holdouts, however, may have different reasons for doing so. Egypt, for example, as well as some other Arab states, have not signed because they believe it gives them some bargaining leverage in the ongoing Middle East negotiations. Other states may

just be adopting a wait and see attitude, looking to the success and speed of putting the new agreement into place before acting.

The different reasons that states may currently be holdouts in the CWC process suggest that not all of them will remain outside the treaty in perpetuity. As the NPT demonstrated, adherence increases over time as politics and cost-benefit calculations change. The entry into force of the CWC itself will change the context within which states make their decisions regarding adherence. For some states, the tangible benefits of membership could ultimately override their current political decision to remain outside the regime. For others, the prospect of concrete penalties may have a similar impact.

It must be recognized, however, that even as adherence progresses toward universality, not all states are likely to join the Convention. Is this sufficient reason for the U.S. not to join the Convention? In light of the treaty's benefits, the answer is no, particularly in light of the fact that the CWC itself will help to limit the number of problem cases, and help to bring the CW proliferation problem down to more manageable proportions.

If holdouts do not provide sufficient reason to withhold support for the CWC, what about cheaters? Just as some holdouts must be anticipated, some violations of the CWC must be expected. If it were not a possibility, then there would be no need for the elaborate verification measures that have been designed.

Why should the U.S. be concerned about cheaters? In short, they represent a potential problem because their CW capabilities could pose a threat to U.S. military operations in support of our interests overseas. To pose such a danger, however, those CW capabilities must be militarily significant. Military significance is in part a function of the quantity of toxic agent available. The amount of agent that must be used to have a significant impact on the battlefield, however, is often underestimated. One analysis, for example, argued that Iraq might have had 2,000 tons of chemical agent, which translates roughly into 500,000 artillery rounds. Such stocks are not sufficient to sustain a protracted conflict. The problem of limited supply is important because offensive chemical warfare requires the use of large amounts of agent; contaminated targets must be reattacked steadily.

CW programs of military significance to the United States, of course, are a function of many factors other than just the amount of agent. Analysts such as Brad Roberts argue that with the CWC in place, these activities—stockpiling agent over long periods, utilizing advanced delivery systems, and so on—which together might create a problem for the U.S. should be detectable.

Less detectable programs, while not militarily inconsequential, should be manageable through chemical defense programs. This is an example of how the CWC and other policy instruments can and must work together. The CWC narrows the problem to a range within which other tools, such as defensive programs, can be effective. It also highlights the sometimes overlooked fact that, unlike nuclear programs, the impact of CW can be diminished through defensive programs. Understanding that the U.S. and others have continued their commitment to adequate defense capabilities could

be an important factor in the calculations of a potential CW proliferator about choosing the CW path.

Many CWC opponents believe that by foregoing chemical deterrence, the United States will deny itself an important policy option. A chemical retaliatory capability may indeed be useful in some theoretical scenarios, but it is likely to be marginal, especially in light of the overwhelming conventional power the U.S. can bring to bear against an adversary. As Victor Utgoff of the Institute of Defense Analyses argues, "the United States and its allies have such overwhelming military power that, even without offensive CW capabilities, they can match or exceed any level of violence that a CW armed state could offer." Moreover, even if the U.S. retained chemical weapons, it is questionable whether the U.S. leadership would make the political decision to use them, particularly given available high-technology conventional options.

It has sometimes been argued that Saddam Hussein's reluctance to use his CW stocks was a result of the ambiguous nature of the promised U.S. response in the event of such use. U.S. spokesmen were not specific about how they would respond, implying any measure, including chemical retaliation, was possible. No one can be certain why the Iraqi leader did not use his CW, but his concern over possible chemical retaliation is not the only answer. Some commentators argue that his principal delivery systems—aircraft—were destroyed. Others suggest that Iraqi troops were equally if not more vulnerable to CW given their poor defensive equipment and prevailing winds. Still others propose that Iraq was unable to deliver its CW stocks to forward commanders. Finally, the ambiguous nature of the certain U.S. response to CW use also included the prospect of nuclear or conventional options. Saddam ultimately may have decided that using CW would have changed the character of the coalition's war aims from removing Iraq from Kuwait to eliminating the Iraqi regime. At least some of these explanations have an equal if not greater value in elucidating Saddam Hussein's decision not to use CW than the prospect of chemical retaliation.

In his testimony before the Committee, Secretary of Defense Perry, argued "while we recognize that detecting illicit production of small quantities of CW will be extremely difficult, we also recognize that would be even more difficult without a CWC. In fact, the CWC verification regime, through its declaration, routine inspection, fact-finding, consultation and challenge inspections, should prove effective in providing a wealth of information on possible CW programs that simply would not be available without the convention."

Dr. Brad Roberts told the Committee that "CWC cannot rid the world of chemical weapons, but it can effectively eliminate them as a threat of operations significance to the U.S. * * * it will narrow the range of scenarios in which the CW arsenals of states will make a difference to the national security of the U.S., by keeping the number of CW-armed states few and their arsenals and war fighting skills relatively unsophisticated. Absent the CWC, a much larger number of states capable of using a much broader range of CW assets seems likely to emerge, given proliferation trends."

Dr. Roberts added: "the regime promises to meet U.S. needs with regard to verification. It will not detect all cheating but should de-

tect all militarily significant cheating, at least in timely fashion * * * [the U.S.] has an impressive national capability to monitor the military disposition of potential adversaries and the proliferation problem more generally. The monitoring inspections and on-site challenge inspections made possible under the CWC will add a valuable dimension to U.S. verification capabilities."

Dr. Roberts continued: "from the point of view of the U.S., verification requirements are surprisingly modest. The U.S. should not and cannot concern itself with illicit behavior in every building or tunnel in the world. Rather, it should concern itself with illicit behavior that is militarily significant"

In his testimony before the Committee, Secretary of State Christopher maintained that: "The Convention's export-control requirements and its prohibitions on assistance to chemical weapons programs in other countries will support our global strategy of curbing the spread of weapons of mass destruction. They also will complement the Nuclear Non-Proliferation Treaty and the Biological Weapons Convention."

Mr. John Holum, Director of the U.S. Arms Control and Disarmament Agency stated before the Senate Foreign Relations Committee: "while no treaty is 100 percent verifiable, the CWC will increase the risk of detection and therefore help deter illicit chemical weapons activities. Its declaration and inspection provisions will help build a web of deterrence, detection, and possible sanctions that reduces the incentives for states to build chemical weapons."

In his testimony before the Senate Foreign Relations Committee, Ambassador Stephen Ledogar, the U.S. representative to the Conference on Disarmament at the Department of State: "the Convention further provides for national security through provisions allowing for the maintenance of defensive programs with the provision of assistance and protection in the event of the use or threat of use of chemical weapons against states parties."

Still other opponents of the CWC believe that the Convention is not verifiable. This contention arises perhaps out of a misconception of verification. Three points should be made in response. First, verification is not a mechanistic, cut and dried process that produces unambiguous evidence of noncompliance. As with other elements of arms control, verification is at its core a political process. It is a process of making judgments about information not in isolation, but in a context. The information itself is not generated by treaty-related activities alone, but by a range of sources, including national means—technical and otherwise. A single inspection indeed may not uncover a "smoking gun" to confirm conclusively a cheater's noncompliance. This does not mean that the treaty is ineffective, however. Rather, judgments regarding noncompliance are formed on the basis of a mosaic of evidence created over time from a range of activities including multiple inspections, interviews, evaluations, and nontreaty related inputs. The CWC's verification provisions create critical opportunities for forming such a mosaic and noting quickly when particular pieces do not seem to fit, prompting yet further scrutiny.

Second, verification is not synonymous with monitoring. The task of monitoring the evolution of CW programs will be a challenge for the intelligence community whether there is a CWC or not. The

CWC, however, will supplement national capabilities, not diminish them. In particular, it will generate more data from more sources, some of which our intelligence may not be able to secure through national means.

Third, the number of activities prohibited by the CWC are not drawbacks to the treaty but verification opportunities. Acquiring a CW program includes many stages—research and development, production (somewhere), agent storage (either in bulk or weaponized), filling munitions, incorporation into offensive military doctrine, and training. Some of these activities are more detectable than others. By including all of them in its ban, the CWC creates opportunities to identify a range of possible irregularities in a state's behavior. If one piece of the mosaic does not seem to fit, then other pieces can also be more closely examined for corroborative evidence.

Finally, how important are the admitted shortcomings of the CWC's verification regime? In addition to the points already made about military significance, there are at least two mitigating considerations. First, CWC verification must be judged not only against a standard of detection, but of deterrence. The CWC will raise the costs of cheating to potential proliferators. It also enhances the prospect of detecting military significant programs. Together these factors bolster deterrence. Second, some limits to intrusiveness are needed to protect both national security and proprietary business information. During the talks the U.S. negotiated hard for a balanced approach, against those who wanted either unfettered access that would put such information at risk or those who preferred a greatly more restrictive approach. Such a balance has been achieved.

IV. Conclusions

A. BIPARTISAN SUPPORT

The ratification effort is a strong example of bipartisanship and continuity. It was President Bush's deep personal commitment to the cause of banning chemical weapons that led the U.S. finally to conclude this treaty, which the U.S. signed seven days before he left office. President Bush reiterated his strong support for the CWC in a letter to Senators Pell and Lugar in July 1994:

> My longstanding commitment to banning chemical weapons has been shared by many others, on both sides of the aisle. Indeed, your own efforts and those of your Senate colleagues were instrumental both in completing the negotiations successfully and in ensuring that the Convention itself was the very best that could be achieved * * *. The Convention clearly serves the best interests of the United States in a world in which the proliferation and use of chemical weapons is a real and growing threat * * *. I urge the Senate to demonstrate the U.S. commitment to abolishing chemical weapons by promptly giving its advice and consent to ratification.

President Clinton has made the Convention a foreign policy priority of his Administration as well.

The Convention also enjoys strong support from affected constituencies. The final text of the Convention reflected the views of the U.S. military, the intelligence community, the chemical industry and the Congress—all of which have a compelling interest in the treaty and especially its verification provisions. Prior to signing the CWC, the U.S. Government conducted a thorough interagency review of the entire treaty, and decided that the balances it struck adequately protect U.S. interests. The Chemical Manufacturers Association, the Synthetic Organic Chemical Manufacturers Association, the Pharmaceutical and Research Manufacturers of America, the Biotechnology Industry Organization, and the American Chemical Society have fully endorsed the Convention on behalf of its members and other trade associations have expressed their support.

B. SUMMARY

The CWC seeks to deter the use of chemical weapons as a military option through establishing a global norm against their use, verification of compliance, establishing mechanisms for alleviating concerns about suspected non-compliance and applying punitive measures, and by providing assistance to the victims of chemical weapons attack.

The CWC prohibits all chemical weapon use, including retaliation in kind. However, the CWC specifically allows for Parties to maintain CW defensive programs and does not constrain non-CW military responses to chemical weapon attack. Upon entry into force of the CWC, the United States, with its superior military force, will no longer need an in-kind retaliatory deterrent. The United States superior individual protection and training program, detection capabilities and medical support further reduce both the effectiveness of a CW attack and an aggressor's incentive to use chemical weapons against U.S. forces.

On May 13, 1994, the Department of Defense testified before the Senate that "DOD supports giving up the ability to retaliate with CW because we have an effective range of alternative retaliatory capabilities. Our protective capabilities have been improved * * * We do not need chemical weapons to deliver an effective response to CW."

The CWC complements the U.S. CW deterrence posture by reducing the probability of CW use through the following:

> It ensures that each State Party has access to assistance against CW to include individual protection equipment, detection capabilities, and medical support. The availability of such assistance can reduce the effectiveness of a CW attack and therefore cause the would-be aggressor to consider a less politically costly option.
>
> Unlike the Geneva Protocol, which only prohibited use of CW, the CWC establishes a new and very significant global norm prohibiting all offensive CW related activities. The CWC not only bans the use of CW but it will make it politically costly for a State Party to develop or maintain a CW capability. The norm will serve as a basis for inter-

national pressure against non-Parties who have or are seeking to acquire CW programs.

By banning the development, production, stockpiling, and use of CW; the CWC seeks to remove the ability of State Parties to openly prepare, deploy, and use chemical weapons. Renegade countries choosing to acquire CW will have to conduct these activities in a secretive and therefore more expensive manner.

A militarily significant quantity of CW is situationally dependent. Such variables as the aggressor's military objectives, the level of protection and training of the targeted force, environmental conditions, and the type of CW used all affect the quantity of CW needed. Small amounts such as one ton could suffice as a weapon of terror to cause panic in a civilian population. Hundreds of thousands of tons may be needed to interdict logistic nodes or have an impact on a large-scale engagement.

The offensive use, or threat of use of CW against U.S. forces will have a military impact. Merely operating in a chemical threat environment causes U.S. forces to assume a protective posture that may have a negative impact upon their performance; however, the impact is mitigated as the force's level of training and familiarity with their protective equipment increases. The U.S. military's ability to successfully engage the aggressor in a chemical environment and to continue its mission is among the best in the world. This ability is, has been, and will continue to be, a major factor deterring aggressors from using chemical weapons against U.S. forces.

The CWC specifically allows for Parties to maintain defensive programs and does not constrain a Party's non-CW military response. Superior U.S. military force, coupled with a robust defensive program, will reduce the likelihood of CW use against U.S. forces and the effectiveness of an attack, should deterrence fail.

The CWC also complements the U.S. chemical weapons deterrence strategy by providing a mechanism to focus global attention on countries that violate its provisions and by promoting nonproliferation of these weapons of mass destruction. The CWC's provisions raise the economic and political costs to produce, maintain, or use chemical weapons.

U.S.–CW deterrence is predicated upon the ability to effectively retaliate with superior military force and maintain a robust CW defense program. This deterrence posture will dampen any potential aggressor's belief that a chemical weapons program is worth the expense and the political risk.

In response to the allegation that the Chemical Weapons Convention is not in the national security interests of the U.S., Chairman Shallikashvilli argued before the Committee that: "The Chemical Weapons Convention is clearly in our national interest. The Convention's advantages outweigh its shortcomings. The United States and all other CW-capable state parties incur the same obligation to destroy their chemical weapons stockpiles."

Lt. General Wesley Clark, the Director of Strategic Plans and Policy in the Office of the Chairman of the Joint Chiefs, argued before the Committee: "From a military perspective, the Chemical Weapons Convention is clearly in our national interest. The convention's advantages outweigh its shortcomings."

In letters to Senators Lugar and Pell on July 18, 1994, former U.S. President Bush argued: "This Convention clearly serves the best interests of the United States in a world in which the proliferation and use of chemical weapons is a real and growing threat."

In a statement to the Henry L. Stimson Center, former Secretary of State Lawrence Eagleburger remarked: "The Chemical Weapons Convention is an important part of an international structure that would increase U.S. and global security in the next century. If we do not lead this effort to curb the proliferation of chemical weapons and initiate their global elimination, we increase the chances that we will encounter disasters in the 21st century reminiscent of those that occurred in the first fifty years of the 20th century."

Some critics argue that the U.S. will lose its autonomy and jeopardize its national security by ratifying the CWC. In his testimony before the Committee, Secretary of State Christopher argued: "If the United States is among the first 65 parties to ratify the Convention, we will retain our critical leadership role in the global fight against chemical weapons. If we are not, we will lose the chance to ensure that our views are fully reflected in the final preparations for entry into force. We will not be able to participate immediately in the Organization for the Prohibition of Chemical Weapons, which monitors compliance. We will not be able to join immediately in international inspections."

Secretary of Defense Perry told the Committee: "In the Defense Department's view, a proper balance has been achieved between effective verification of the Convention on the one hand, and the protection of DOD's national security on the other."

Lt. General Wesley Clark, testified to the Committee that: "While less than perfect, the verification regime allows for intrusive inspections while protecting our national security concerns."

C. CONTINUING CONCERNS

Meeting the destruction schedule laid out in the CWC will be a major challenge. Important political, environmental, and economic barriers lie ahead. If the destruction effort does not keep pace with implementation of other provisions of the CWC, however, the credibility of the entire Convention will be undermined.

A second question is the relationship between the CWC and other aspects of CW nonproliferation policy. It is the contention of some analysts that it is not only a possibility but a likelihood that, following CWC ratification, the U.S. will "overcomply" by setting aside its defensive programs as a consequence of insufficient funding. If correct, this observation is disturbing. The CWC will not obviate the need for a robust chemical defense program which must be retained as a hedge against the uncertainties of noncompliance.

Pursuit of defense programs should not be limited to passive measures. The extent to which the U.S. can defend against a range of advanced delivery vehicles will also bolster the web of deterrence against CW proliferation. For this reason, efforts to explore theater missile defense should be continued.

Another critical area that must receive continued attention is conventional capabilities. Conventional preponderance, together with credible protective measures and active defense capabilities,

are likely to be of far greater importance in defining the scope and intensity of the future CW threat.

Yet another issue that must be addressed relates to assistance to a state that is subject to a CW attack or threat. This question of assistance—what the U.S. or others will provide, when, and under what conditions—requires more detailed and systematic attention by all of the signatories.

So, too, does the problem of allegations of use. The bulk of the verification regime is directed toward detecting nonproduction of chemical weapons. That is as it should be given the open nature of the Convention. Recent experience has demonstrated, however, that evidence regarding alleged use of chemical weapons is often ambiguous. From the initial moment of entry into force, the parties to the Convention must do whatever is necessary to bolster confidence that the Convention's provisions for investigating allegations of use will be rapidly exploited to minimize that ambiguity.

Finally, an important concern must be the question of what state parties will do in the event they are confronted—as they undoubtedly will be—with noncompliance. The United States insisted during the negotiations that the decision on determining a state's compliance was a sovereign right of individual state parties. With that right, however, comes the responsibility of a state party to know what it will do if violations are detected. These sound like easy judgments, but they are not. Past experience has demonstrated how contentious the issue of possible treaty violations can be even among close friends and allies.

Ultimately, the willingness of state parties to act in the face of noncompliance, more than the sophistication of its inspection provisions or the extent of its data reporting requirements, will determine the CWC's effectiveness. If the political will does not exist to make these agreements important instruments of international policy, they are not worth the paper on which they are written. If the political commitment to action is absent, all of the inspections they mandate are so much unproductive frenzy. If the political strength to take on those who will not abide by the rules has vanished, the penalties have the impact of a mosquito—inconvenient and irritating perhaps, but no deterrent.

D. JUDGMENT

With all of these factors in mind, the majority of the members of the committee have concluded that ratification of the Chemical Weapons Convention is decidedly in the national interests of the United States, its friends and allies, and the world community. We reached this judgment in full awareness that questions remain as to the ultimate effectiveness of the Convention.

We are very much concerned as to what the alternative might be. A United States decision not to join the Chemical Weapons Convention would not stop it from entering into force, but would surely undermine the effectiveness of the treaty and would be harmful to critically important U.S. interests in identifying and dealing with chemical weapons threats in various parts of the world. It is not in our interest to be on the outside looking in as the Chemical Weapons Convention is set up.

Questions have been raised as to the effectiveness of the verification of this Convention. A very careful balance was struck at the United States insistence between intrusiveness sufficient to gain knowledge and reassurance and possible encroachments on individual rights and possible risks to national security. Verification cannot be perfect, as would be wished in ideal circumstances, but it will serve as a valuable tool in helping American officials keep up with potential threats. It will not substitute for our existing means of gathering information but it will provide a valuable augmentation.

Concerns have been expressed as to possible onerous burdens the Convention might place upon American business. Having closely investigated how the routine and challenge inspection procedures might be implemented, we believe there is every reason to conclude that this treaty will not constitute an onerous burden for American business. It is important to understand that representatives of the chemical industry were involved from the outset in development of the testing procedures and field testing and evaluation of various optional approaches. The end result was achieved with the industry being regulated as a major and decisive participant.

We understand fully that entry into force of the Convention will not remove the threat of chemical warfare from the world. Nonetheless, it will move us from the present circumstances in which various nations can contemplate the use of chemical weapons and even use such weapons without international punishment, to a norm in which nations are expected to and are under pressure to eschew the development, production, storage or use of chemical weapons. Those who violate this norm will be pariah states, and justifiably so. Over time, under this Convention, the nations of the world are likely to move away from toleration of chemical weapons, and that will constitute a substantial boon for all mankind.

V. APPENDICES

LETTER OF SUPPORT FROM GEORGE BUSH

JULY 18, 1994.

Hon. CLAIBORNE PELL,
U.S. Senate,
Washington, DC.

DEAR MR. CHAIRMAN: I understand that the Senate will be voting on the Chemical Weapons Convention soon, and I wanted to ensure that you and our colleagues were aware of my strong support for the earliest possible ratification and entry into force of this landmark agreement.

As you know, my own involvement in efforts to ban chemical weapons began in 1984, when I presented the initial U.S. draft treaty next to the Conference on Disarmament in Geneva. Convinced of the threat posed by chemical weapons proliferation and of the importance of banning these weapons from the face of the earth, I made completion of the Chemical Weapons Convention one of the top foreign policy priorities of my Administration. It was, therefore, particularly gratifying to be able to send Security of State Eagleburger to Paris in January 1993 to sign the Convention on behalf of the United States.

My longstanding commitment to banning chemical weapons has been shared by many others, on both sides of the aisle. Indeed, your own efforts and those of your Senate colleagues were instrumental both in completing the negotiations successfully and in ensuring that the Convention itself was the very best that could be achieved.

The United States worked hard to ensure that the Convention could be effectively verified. At the same time, we sought the means to protect both United States security interests and commercial capabilities. I am convinced that the Convention we signed served both objectives, effectively banning chemical weapons without creating an unnecessary burden on legitimate activities.

The Convention clearly serves the best interests of the United States in a world in which the proliferations and use of chemical weapons is a real and growing threat. United States leadership played a critical role in the successful conclusion of the Chemical Weapons Convention. United States leadership is required once again to bring this historic agreement into force. I urge the Senate to demonstrate the U.S. commitment to abolishing chemical weapons by promptly giving its advice and consent to ratification.

Sincerely,

GEORGE BUSH.

LETTERS OF SUPPORT FROM THE CHEMICAL INDUSTRY

1. The Chemical Manufacturers Association (CMA)

CHEMICAL MANUFACTURES ASSOCIATION,
Arlington, VA, May 9, 1996.

Hon. RICHARD LUGAR,
U.S. Senate,
Washington, DC.

DEAR SENATOR LUGAR: The Chemical Manufacturers Association (CMA) wishes to reiterate its strong support for the Chemical Weapons Convention (CWC) now before the Senate. In CMA's view, the CWC is a reasonable, effective mechanism to eliminate the threat of chemical weapons on a global basis.

CMA's support for the CWC is based on our long involvement in the negotiation and implementation of the agreement. The CWC provides a unique balance between verification and deterrence needs, and the legitimate commercial interests of American business. Indeed, CMA has carefully weighed the costs and benefits of the CWC's reporting and inspection provisions. In every instance, the benefits of the treaty far outweigh the potential costs to industry.

A great deal of attention has been focused recently on the number and type of facilities affected by the CWC. CMA's analysis indicates that the CWC compliance burden on affected facilities is both reasonable and manageable. Furthermore, implementation decisions have already narrowed the scope of the CWC significantly, and future decisions are likely to further reduce the number of potentially affected U.S. commercial facilities. The number of *companies* affected by the CWC is lower than the number of affected fa-

cilities, as many affected companies own multiple facilities across the U.S.

Schedule 1 requirements

As you know, the CWC imposes the most stringent requirements on facilities producing or consuming Schedule 1 chemicals—materials with direct weapons applications. The information CMA has indicates that there are 11 U.S. facilities consuming Schedule 1 materials, all in the pharmaceutical area [See Attachments 1 and 2]. The CWC does not prohibit the use of Schedule 1 materials for pharmaceutical purposes, of course. The CWC's reporting and inspection requirements for Schedule 1 facilities entail completing a two to three page declarations. CMA is working with the Department of Commerce's Bureau of Export Administration to design declaration forms for Schedule 1, 2 and 3 facilities in order to achieve overall U.S. compliance with CWC while minimizing the administrative burden on industry. The CWC's reporting and inspection requirements for Schedule 1 facilities are likely to be no more burdensome that those already imposed by the federal Occupational Safety and Health Act.

Schedule 2 requirements

The CWC also imposes declaration and inspection obligations on the producers, processors and consumers of Schedule 2 chemicals—the direct precursors of weapons agents. There are relatively few affected Schedule 2 facilities in the United States. Although at one point CMA believed there may be as many as 200 Schedule 2 facilities in the U.S., more recent information indicates that there are only some 30 to 35 facilities that will be subject to the initial and thereafter annual declaration requirements, in addition to, routine inspections to verify the accuracy of declarations and declared activities [See Attachments 1 and 2].

There are several reasons for the lower number of affected U.S. Schedule 2 facilities. The scope of the Schedule 2 provisions has been narrowed by determinations that it does not apply to materials such as brominated fire retardants, for example. In addition, there are only a handful of U.S. producers of Schedule 2 chemicals, and few commercial consumers of these materials in quantities above the CWC thresholds [See Attachment 1].

Schedule 3 requirements

The CWC provisions for Schedule 3 chemicals—the high-volume indirect precursors of weapons agents—affect approximately 60 U.S. facilities. The Schedule 3 provisions apply *only* to the production, import and export of the materials in quantities in excess of the CWC threshold; consumption or processing of these substances are not affected by the CWC. Compared to Schedule 2 facilities, Schedule 3 facilities pose a relatively lower risk to the object and purpose of the CWC. This is reflected in the less detail reporting and less frequent inspection requirements applied to Schedule 3 facilities [See Attachments 1 and 2].

Requirements for discrete organic chemicals

The majority of U.S. producers of "discrete organic chemicals" will be impacted by the CWC. It is important to note that the requirements only apply to *producers* of these materials, and do not affect consumers, processors, importers or exporters. As many as 1,800 U.S. facilities may produce discrete organics in excess of the CWC thresholds. These facilities face *no* threat of routine inspections under the CWC, and will only be expected to file a one-page annual report with the U.S. government. This requirement is significantly less than the compliance burden already associated with U.S. environmental regulations [See Attachment 1].

The potential scope of the discrete organic reporting burden has been narrowed as exceptions in the CWC have been clarified. For example, facilities producing polymers and oligomers will have no reporting obligations, as it is recognized that these materials pose no risk of weapons-related activities. Work is currently underway to clarify the scope of the CWC's exemption of hydrocarbon facilities. CMA expects that, at a minimum, U.S. oil refineries and closely related processes will be exempt from the discrete organic reporting obligation.

Requirements for chemical mixtures

The scope of the CWC will also be narrowed as the signatories address the application of the reporting and inspection provisions to mixtures of the Scheduled chemicals. There are chemicals mixtures containing precursors from which it is impractical (and at times, chemically impossible) to separate out usable amounts of the precursor material. As these mixtures present little threat of diversion to chemical weapons production, they are likely candidates for exemption from the CWC. CMA has been working closely with the U.S. government on this issue.

Conclusion

It should be apparent that the *primary* impact of the CWC is indeed on chemical manufacturers, and not on the downstream consumers of chemical products. Chemical manufacturing is already one of the most-regulated sectors of American commerce, and the CWC imposes no compliance burden that is different in nature or scope from those already imposed by U.S. law.

In field tests of the proposed U.S. declaration formats, potentially affected facilities reported that the time required to complete a declaration ranged from 2 to 8 hours for a Schedule 2 facility, which requires more detail than a Schedule 3 or discrete organic facility. The time required to complete the declaration can be expected to go down as facilities gain experience with the CWC.

The important point is that the CWC is an effective means of assuring that commercial chemicals are not diverted to illegal weapons uses. Our industry is committed to eradicating the threat of chemical weapons; the CWC is the best way of achieving that goal.

If we can provide any additional information on the CWC and commercial chemicals, please contact me or Claude Boudrias, Legislative Representative, at 703/741–5915.

Sincerely,

FREDERICK L. WEBBER, *President and CEO.*

Attachment.

SCHEDULE 1

Alkyl phosphonofluoridates
(e.g., the nerve agents Sarin and Soman

Alkyl s-aminoethyl alkyl phosphonothiolates and corresponding alkylated or protonated salts (e.g. the nerve agent VX)

Sulfur mustards (e.g., mustard gas)

Lewisites

Alkyl phosphonyldifluorides

Chlorosarin

Alkyl phosphoramidocyanidates
(e.g., the nerve agent Tabun)

Alkyl s-aminoethyl alkyl phosponites and corresponding alkylated or protonated salts (e.g., QL, a key precursor for VX)

Nitrogen Mustards

Ricin

Saxitoxin

Chlorosoman

SCHEDULE 2

Amiton: O, O-diethyl S-[2-(diethylamino)ethyl] phosphorothiolate and corresponding alkylated or protonated salts

PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene

BZ: 3-Quinuclidinyl benzilate

Chemicals, except for those listed in Schedule 1, containing a phosophorous atom to which is bonded one methyl, ethyl, or propyl (normal or iso) group but not further carbon atoms

N, N-Dialkyl (Me, Et, n-Pr, or i-Pr) phosphoramidic dihalides

Dialkyl (Me, Et, n-Pr, or i-Pr) N, N-dialkyl (Me, Et, n-Pr, or i-Pr) phosphoramidates

Arsenic trichloride

2,2-Diphenyl-2-hydroxyacetic acid

Quinuclidine-3-ol

N, n-Dialkyl (Me, Et, n-Pr, or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts

N, N-Dialkyl (Me, Et, n-Pr, or i-Pr) aminoethane-2-ols and corresponding protonated salts

N, N-Dialkyl (Me, Et, n-Pr, or i-Pr) aminoethane-2-thiols and corresponding protonated salts

Thiodiglycol: Bis(2-hydroxyethyl)sulfide

Pinacolyl alcohol: 3,3-Dimethylbutane-2-ol

SCHEDULE 3

Phosgene: Carbonyl dichloride

Cyanogen chloride

Hydrogen cyanide

Chloropicrin: Trichloronitromethane

Phosphorus oxychloride

Phosphorus trichloride

Phosphorus pentachloride

Trimethyl phosphite

Triethyl phosphite

Dimethyl phosphite

Diethyl phosphite

Sulfur monochloride

Sulfur dichloride

Thionyl chloride

Ethyldiethanolamine

Methyldiethanolamine

Triethanolamine

TYPE OF FACILITY	TYPE OF ACTIVITY TO BE REPORTED	ANNUAL PRODUCTION THRESHOLD FOR REPORTING	THRESHOLD FOR INSPECTIONS
Schedule 1	Production, processing, consumption, acquisition, import and export data	100 g	100 g
Schedule 2	Production, processing, consumption, import and export data	1 kg benzilate 100 kg (Amiton or PFIB 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene 1 metric ton for other Schedule 2 chemicals	10 kg benzilate 1 metric ton (Amiton or PFIB 1,1,3,3,3,-Pentafluoro-2-(trifluoromethyl)-1-propene 10 metric tons for other Schedule 2 chemicals
Schedule 3	Production, import and export data	30 metric tons	200 metric tons
Other Chemical Production Facilities	Production data for previous calendar year only	30 metric tons for discrete organic chemicals containing phorphorous, sulfur, or flounne; 200 metric tons for other unscheduled discrete organic chemicals	200 metric tons

Attachment 2
CWC Controlled Chemicals

2. The Synthetic Organic Chemical Manufacturers Association (SOCMA)

SYNTHETIC ORGANIC CHEMICAL
MANUFACTURERS ASSOCIATION, INC.,
Washington, DC, August 12, 1996.

Hon. RICHARD G. LUGAR,
U.S. Senate, Hart Senate Office Building, Washington, DC.

DEAR SENATOR LUGAR: The Synthetic Organic Chemical Manufacturers Association (SOCMA) would like to take this opportunity to express its position on the ratification of the Chemical Weapons Convention (CWC). SOCMA is supportive of the overall goals of the Chemical Weapons Convention and supports Senate ratification of the treaty and prompt passage of the necessary implementing legislation.

SOCMA is the leading association representing the batch and custom chemical industry. This industry produces 95 percent of the 50,000 chemicals manufactured in the U.S. while making a $60 billion annual contribution to the economy. SOCMA's 260 member companies are representative of the industry and are typically small businesses with fewer than 50 employees and less than $50 million in annual sales.

In order for a ratified CWC to be effective, Congress will need to pass implementing legislation that: 1) produces the least burdensome reporting requirements that do not exceed the objectives of the treaty; 2) contains adequate protection for proprietary information; and 3) does not damage the domestic chemical industry's competitive position.

Since it appears that the CWC is on the verge of obtaining the 65 signatories necessary to begin the implementation process, SOCMA believes that it is both in the best interest of its members and also the best economic interest of the United States for Congress to address these issues in a timely fashion.

I am attaching a detailed paper on SOCMA's position on the Chemical Weapons Convention. I welcome any questions you may have regarding SOCMA's position.

Sincerely,

GRAYDON R. POWERS, *President.*

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3. The Pharmaceutical Research and Manufacturers of America (PHRMA)

PhRMA,
Washington, DC, August 7, 1996.

Hon. RICHARD LUGAR,
U.S. Senate, Washington, DC.

DEAR SENATOR LUGAR: The Pharmaceutical Research and Manufacturers of America (PhRMA) represents this country's leading research-based pharmaceutical and biotechnology companies. Investing nearly $16 billion a year in discovering and developing new medicines, PhRMA companies are the source of nearly all new drug developments in the United States.

PhRMA has had a long and continued interest in the development of an international Chemical Weapons Convention (CWC). As an industry we believe that while there are many dual-use chemical technologies being used for legitimate purposes, their use for the development and propagation of chemical weapon should be strongly discouraged by the United States and the world. Since 1990, we have worked with the Chemical Manufacturers Association (CMA) in their efforts to help the U.S. Government develop a CWC which is effective, but that also protects our industries' legitimate confidential business information. PhRMA was represented on the CMA Chemical Weapons Work Group and we congratulate CMA on the constructive efforts that they have made on behalf of our industries to explain the technologies and why some processes should be protected as proprietary. We believe that the CWC now up for ratification is a good attempt to balance the conflicting concerns of enabling the intelligence community to catch violators while not exposing our companies to more intrusive declarations and inspections than is absolutely necessary. As such we believe that the U.S. Government should ratify the CWC, and make domestic implementing legislation a priority.

PhRMA is concerned that our support for the CWC is being misconstrued, and confused with our concerns over the development of a verification protocol for the already-approved 1972 Biological Weapons Convention (BWC). We see the BWC and CWC as entirely separate issues, both due to the nature of the technologies and the status of the conventions. While the U.S. Government does not yet have a position on the BWC Protocol negotiations, we anticipate that PhRMA and our member companies will be contributing as fully and constructively to the BWC Protocol as CMA has done for CWC.

Sincerely,

ALAN F. HOLMER.

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4. The Biotechnology Industry Organization (BIO)

BIOTECHNOLOGY INDUSTRY ORGANIZATION (BIO),
Washington, DC, September 5, 1996.

Hon. RICHARD LUGAR,
U.S. Senate,
306 Hart Senate Office Building, Washington, DC.

DEAR SENATOR LUGAR: The Biotechnology Industry Organization (BIO) represents over 650 companies and affiliated organizations. Our members are developing products in variety of sectors including health care, agriculture, and environmental remediation. We would like to take this opportunity to go on record in support of ratification of the Chemical Weapons Convention (CWC).

As you are aware, the Chemical Manufacturers Association (CMA) took the lead in addressing industrial concerns throughout the treaty negotiations. BIO followed these negotiations since a small subset of Schedule One chemicals might be used by our industry in the development of new products. We have been briefed by CMA staff and believe that concerns about the protection of proprietary information during inspections under the convention are

resolved. Reporting and record keeping requirements appear not to be overly burdensome, even in the case where certain Schedule One chemicals may be used during production.

BIO's principal ongoing concern is with the emerging discussions regarding development of inspection and verification protocols under the Biological Weapons Convention (BWC). We continue the active discussions with our U.S. negotiators that began three years ago. We do not believe that ratification of the CWC will set any precedent as to the final form of the BWC.

Sincerely,

CARL B. FELDBAUM, *President.*

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5. The American Chemical Society (ACS)

AMERICAN CHEMICAL SOCIETY,
Washington, DC, August 9, 1996.

Hon. RICHARD G. LUGAR,
U.S. Senate,
Washington, DC.

DEAR SENATOR LUGAR: The American Chemical Society (ACS) is the world's largest scientific organization with over 150,000 chemical scientists and engineers employed in industry, academia, and government. In view of the current debate on ratification of the Chemical Weapons Convention, the Society offers its perspective.

The American Chemical Society strongly supports the overall goals of the Chemical Weapons Convention and urges immediate ratification of the treaty. Further, the Society believes that, after treaty ratification, the Congress should expedite consideration and passage of the needed implementing legislation.

For over a decade, the U.S. chemical industry has worked with the negotiators to craft the treaty. The industry continues to work to ensure that the treaty and its implementation are not unduly burdensome on American business. The U.S. chemical industry, with its positive trade balance and a $60 billion per year export business, has generated thousands of jobs. Without U.S. ratification, a treaty in force will adversely affect this industry as overseas customers start switching to suppliers in countries that have ratified the Convention.

The ACS's congressional charter imposes a responsibility to provide assistance to the government in matters of national concern related to its areas of expertise. The American Chemical Society has a long history of discussion on chemical warfare policies and of advising the government in this area. As the Senate deliberates on the treaty and its implementation, the Society offers its support and expertise. If we can provide assistance on this important issue, please call on us.

Sincerely yours,

RONALD BRESLOW,
President.

6. 53 Senior Chemical Industry Executives

August 29, 1996.

Hon. CLAIBORNE PELL,
U.S. Senate,
Washington, DC.

DEAR SENATOR PELL: The undersigned senior executives of chemical companies urge your vote in support of the Chemical Weapons Convention (CWC), and quick Senate action on legislation to implement this important treaty.

The chemical industry has long supported the CWC. Our industry participated in negotiating the agreement, and in U.S. and international implementation efforts. The treaty contains substantial protections for confidential business information (CBI). We know, because industry helped to draft the CBI provisions. Chemical companies also help test the draft CWC reporting system, and we tested the on-site inspection procedures that will help verify compliance with the treaty. In short, our industry has thoroughly examined and tested this Convention. We have concluded that the benefits of the CWC far outweigh the costs.

Indeed, the real price to pay would come from not ratifying the CWC. The treaty calls for strict restrictions on trade with nations which are not party to the Convention. The chemical industry is America's largest export industry, posting $60 billion in export sales last year. But our industry's status as the world's preferred supplier of chemical products may be jeopardized if the United States does not ratify the Convention. If the Senate does not vote in favor of the CWC, we stand to lose hundreds of millions of dollars in overseas sales, putting at risk thousands of good-paying American jobs.

The U.S. chemical industry has spent more than 15 years working on this agreement, and we long ago decided that ratifying the CWC is the right thing to do.

We urge you to vote in support of the Chemical Weapons Convention.

Sincerely,

J. Lawrence Wilson, Chairman & CEO, Rohm and Has Company, Chairman, Board of Directors, Chemical Manufacturers Association.

Alan R. Hirsig, President & CEO, ARCO Chemical Company, Chairman, Executive Committee, Chemical Manufacturers Association.

H.A. Wagner, Chairman, President & CEO, Air Products & Chemicals, Inc.

D.J. D'Antoni, President, Ashland Chemical Company.

Helge H. Wehmeier, President and CEO, Bayer Corporation.

John D. Ong, Chairman & CEO, The BF Goodrich Company.

Robert R. Mesel, President, BP Chemicals, Inc.

Charles M. Donohue, Vice President, Alkzo Nobel Chemicals, Inc.

J. Dieter Stein, Chairman & CEO, BASF Corporation.

W.R. Cook, Chairman, President & CEO, Betz Dearborn, Inc.

Joseph M. Saggese, President & CEO, Borden Chemicals and Plastics, LP.

Dr. Aziz I. Asphahani, President & CEO, Carus Chemical Company.

Vincent A. Calarco, Chairman, President & CEO, Crompton & Knowles Corporation.

Richard A. Hazleton, Chairman & CEO, Dow Corning Corporation.

Howard J. Rudge, Senior Vice President & General Counsel, E.I. duPont de Nemours & Company.

Richard G. Fanelli, President & CEO, Enthone-OMI Inc.

J.E. Akitt, Executive Vice President, Exxon Chemical Company.

William S. Stavropoulos, President & CEO, The Dow Chemical Company.

Earnest W. Deavenport, Jr., Chairman of the Board & CEO, Eastman Chemical Company.

Bernard Azoulay, President & CEO, Elf Atochem North America.

Bruce C. Gottwald, CEO, Ethyl Corporation.

Ron W. Haddock, President & CEO, FINA, Inc.

Robert N. Burt, Chairman & CEO, FMC Corporation.

Otto Furuta, V.P. Global Logistics & Materials Management, Great Lakes Chemical Corporation.

R. Keith Elliott, President & CEO, Hercules, Inc.

Hans C. Noetzli, President & CEO, Lonza Inc.

Robert G. Potter, Executive Vice President, Monsanto Company.

Dr. William L. Orton, Senior Vice President, Chemical Operations, Givaudan-Roure Corporation.

Michael R. Boyce, President & CEO, Harris Chemical Group.

Thomas F. Kennedy, President & CEO, Hoechst Celanese Corporation.

Mack G. Nichols, President & CEO, Mallinckrodt Group, Inc.

S. Jay Stewart, Chairman & CEO, Morton International, Inc.

E.J. Mooney, Chairman & CEO, Nalco Chemical Company.

Jeffrey M. Lipton, President, NOVA Corporation.

Donald W. Griffin, Chairman, President & CEO, Olin Corporation.

Peter R. Heinze, Senior Vice President, Chemicals, PPG Industries, Inc.

Phillip D. Ashkettle, President & CEO, Reichhold Chemicals, Inc.

Ronald L. Spraetz, V.P., External Affairs & Quality, National Starch & Chemical Company.

J. Roger Hirl, President & CEO, Occidental Chemical Corporation.

David Wolf, President, Perstorp Polyola, Inc.

Ronald H. Yocum, Chairman, President & CEO, Quantrum Chemical Company.

Thomas E. Reilly, Jr., Chairman, Reilly Industries, Inc.

Peter J. Neff, President & CEO, Rhone-Poulenc, Inc.

Nicholas P. Trainer, President, Sartomer Company.

J. Virgil Waggoner, President & CEO, Sterling Chemicals, Inc.

W.H. Joyce, Chairman, President & CEO, Union Carbide Corporation.

Arthur R. Sigel, President & CEO, Velsicol Chemical Corporation.

Roger K. Price, Senior V.P., Mining & Manufacturing, R.T. Vanderbilt Company, Inc.

F. Quinn Stepan, Chairman & President, Stepan Company.

William H. Barlow, Vice President, Business Development, Texas Brine Corporation.

Robert J. Mayaika, President, CEO & Chairman, Uniroyal Chemical Company, Inc.

John Wilkinson, Director of Government Affairs, Vulcan Chemicals.

Albert J. Costello, Chairman, President & CEO, W.R. Grace & Company.

IX. MINORITY VIEWS

INTRODUCTION

It became clear over the course of the committee's consideration of the Chemical Weapons Convention that there existed unanimous agreement that a verifiable treaty accomplishing real reductions in chemical weapons clearly would be in the national security interests of the United States. However, we do not believe that the treaty submitted to the Senate is verifiable. Nor will it reduce the arsenals of terrorist countries and other nations hostile to the United States. Several countries identified by our government as possessing chemical weapons have not even signed the Chemical Weapons Convention, let alone ratified it. Yet those countries—among them Libya, Syria, Iraq, and North Korea—are the countries most likely to use chemical weapons against America or our allies. Moreover, not one country of concern to the United States has ratified this Convention. Neither the People's Republic of China nor Iran, for example, have ratified.

Furthermore, Russia—the country that possesses the largest and most sophisticated chemical weapons arsenal in the world—has consistently refused to agree to implement its commitments to eliminate its chemical weapons stockpile, despite the 1990 U.S.-Russian Bilateral Destruction Agreement. To the contrary, we are concerned that Russia consistently has refused to accurately declare the size of its chemical weapons stockpile, and to provide information on the status of its binary chemical weapons program. We believe this portends ominous things to come in terms of Russia's compliance with the Chemical Weapons Convention (CWC).

With respect to verifiability, we note that even senior-most administration officials have conceded that the Convention submitted to the Senate is not verifiable. The then-Director of Central Intelligence, James Woolsey, declared in testimony before this Committee on June 23, 1994, that "the chemical weapons problem is so difficult from an intelligence perspective, that I cannot state that we have high confidence in our ability to detect noncompliance, especially on a small scale."

Furthermore, not one country that is pursuing chemical weapons—with the exception of the United States and its allies—can be expected to abide by the CWC, whether or not they ratify. Too many chemicals are dual-use in nature. Chemicals used to make ball point pens can be used to make deadly nerve agent. It is impossible to monitor every soap, detergent, cosmetic, electronics, varnish, paint, pharmaceutical, and chemical plant around the world to ensure that they are not producing chemical weapons, or that toxic chemicals are not being diverted to the production of weapons elsewhere. Countries are well aware that if they ratify the CWC, they can cheat with impunity.

What the Chemical Weapons Convention will do, however, is have a major impact upon industry. According to a database supplied to the Senate Foreign Relations Committee by the Arms Control and Disarmament Agency, at least 3,000 U.S. firms that consume, process, or manufacture chemicals will have data declaration and/or inspection obligations under the CWC. Our review of ACDA's information persuades us that as many as 8,000 companies potentially may be affected. Firms that manufacture anything from dyes and pigments, insecticides, pharmaceuticals, ceramics, nylon, paint and varnish, electronics, textiles, and soap and detergent—just to name a few—all will be subject to multinational regulation under the CWC.

These companies will be forced to spend more money to hire more people to fill out more government forms. Some will be forced to submit to routine inspections. Others may be subject to intrusive challenge inspections by an international inspectorate. In fact, we fully expect some of those foreign inspectors to practice economic espionage against our companies. And a small number of companies, comprised largely of biotechnology and pharmaceutical firms, may find their access to certain chemicals constrained or shut off. The most troubling fact about all of this is that the overwhelming number of these firms are not even aware of the implications of the Chemical Weapons Convention.

The CWC also will undo decades of arms control efforts at stemming the tide of chemical weapons proliferation. First, Russia has withdrawn from a much older bilateral commitment to the United States to destroy its chemical weapons stockpiles, citing the less intrusive, less-effective CWC as a preferable alternative. Second, the CWC papers over the fact that the international community has consistently refused to enforce a far more verifiable ban on the use of chemical weapons—the 1925 Geneva Protocol. In fact, the preamble of the CWC falsely claims that "the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Protocol * * *" In fact, after Iraq's repeated use of poison gas against its Kurdish population, the United States could not even secure within the United Nations a resolution mentioning Iraq by name.

Third, the CWC seeks to eliminate trade restrictions on toxic chemicals, threatening to undermine a 29-nation agreement (the Australia Group) to restrict trade in dangerous chemicals to nonmembers. Yet the Australia Group maintains tighter controls on 20 more chemical weapons precursors than does the CWC. We must think carefully about the consequences of undercutting the most stringent barrier to chemical weapons proliferation in existence. Despite the fact that the international chemical industry supports the CWC because it sees new market opportunities, the United States should be leery of providing countries that may ratify, such as Iran and India, with qualitative and quantitative increases in chemical weapons-related technology.

In view of these serious concerns with the CWC, we cannot support ratification of the treaty at this time. The Senate should insist that the United States become party only to a verifiable treaty that is binding on those nations most likely to threaten our national security. In our judgment, approving this treaty will prove counter-

productive—accelerating the spread of chemical weapons rather than slowing it—and will have disastrous consequences for thousands of U.S. businesses.

The following assessment, concluded by the majority staff of the Foreign Relations Committee, details the CWC's likely impact upon our national security, its implications for thousands of U.S. businesses, its verifiability, its cost, constitutionality, and other related issues. Included are our specific recommendations to the Senate.

A. MILITARY SIGNIFICANCE

Certainly major domestic political constraints have shaped debate in the United States over the use of chemical weapons. However, the moral opprobrium attached to chemical weapons should not give rise to unrealistic expectations regarding the CWC's impact upon future conflicts, or prompt anyone to dismiss the willingness of other countries to use such weapons.

Not only can chemical weapons be used as instruments of terror, blackmail, and intimidation, but they also may be used by several countries in war-fighting functions. In fact, the possibility is heightened in the post-cold-war era that chemical weapons will be used in an increasing number of military capacities: to quell internal ethnic conflicts, as Iraq sought to do with its Kurdish population in 1988; in the context of regional disputes (as countries to seek to offset one another's capabilities through a variety of means, including chemical weapons); or as a means of deterring or rendering more costly U.S. intervention in regions in defense of its vital national interests.

During Operation Desert Storm, allied air attacks were focused upon facilities associated with Iraq's chemical weapons program. Muthanna, a facility 65 miles north of Baghdad, was the nucleus of Iraq's chemical weapons program and a priority target during the early days of the Gulf War. Discussing the U.S. military's concern with Iraq's chemical weapons program, General Norman Swarzkopf remarked during a press briefing in Riyad, Saudi Arabia, on February 27, 1991, that:

> The nightmare scenario for all of us would have been to go through [the Iraqi tank barrier], get hung up in this breach right here, and then have the enemy artillery rain chemical weapons down on the troops that were in the gaggle in the breach right here.

Most recently, on March 18, 1996, the Director of the Defense Intelligence Agency (DIA), Lieutenant General Patrick Hughes, forwarded to the Chairman a DIA assessment of North Korea's military capabilities which underscored U.S. concerns with the warfighting uses to which chemical weapons can be put. According to the study:

> In any attack on the South, Pyongyang could use chemical weapons to attack forces deployed near the DMZ, suppress allied airpower, and isolate the peninsula from strategic reinforcement.

Types of chemical weapons and riot control agents

Chemical weapons can be classified according to a number of physical and chemical properties:

(a) lethality/nonlethality;

(b) mode of action (such as inhalation, skin-contact, or oral ingestion);

(c) speed of action (the delay between exposure and effect);

(d) toxicity (the quantity of substance required to achieve a given effect);

(e) persistency (the length of time the agent remains a hazard); and

(f) physical state (solid, liquid, or gas).

The military uses of a given chemical weapon will vary according to its unique combination of these properties. The following information on the various types of chemical and riot control agents and their field employment is extracted from the Central Intelligence Agency's "The Chemical and Biological Warfare Threat."

Choking Agents, such as chlorine and phosgene, are "first-generation chemical weapons" and are the oldest chemical weapons agents. Heavy gases that remain near to ground level, these agents are non-persistent—dissipating rapidly in a breeze—and are militarily useful only for creating a short-term respiratory hazard on territory to be quickly seized.

Blood Agents, such as hydrogen cyanide and cyanogen chloride, are also first-generation agents. They are highly volatile and dissipate rapidly, but can rapidly degrade the effectiveness of a gas mask filter. Blood agents, therefore, may be used in conjunction with other agents to defeat chemical defenses.

Blister Agents, such as sulfur mustard, nitrogen mustard, and lewisite, are persistent and act on contact with skin as well as through respiration. These first-generation agents have been used in the past to cause casualties and to slow military operations. By forcing military personnel to don protective clothing and gas masks, mustard can hinder and reduce military effectiveness. Moreover, this agent is—according to the CIA—"simple to produce, even by Third World standards."

G–Series Nerve Agents, such as tabun, sarin, soman, and GF, are second-generation compounds that were accidentally discovered in the 1930's by German chemists seeking to develop new types of pesticides. Relatively nonpersistent, these agents act rapidly and may be absorbed through the skin or by respiration.

V–Series Nerve Agents, such as VE, VG, VM, VS, and VX are more advanced, third-generation compounds designed to be more toxic and persistent than G–Series agents. Posing a greater skin hazard, these agents can be used to contaminate territory for long periods of time.

Tear Gas Agents, such as CS, CN, PS, and BBC, are nonlethal in all but the most extreme concentrations, and are used in riot control or to disrupt tactical operations. These agents are also used by the U.S. military in a variety of other circumstances, such as in the rescue of downed pilots or in ongoing operations in proximity to friendly troops. In the parlance of the Convention, tear gas agents are riot control agents (RCA's)—not chemical weapons.

Vomiting Agents, such as Adamsite and diphenyl chloroarsine, are also nonlethal in most cases and are used in situations similar to those well-suited for the use of Tear Gas Agents. In addition, vomiting agents may defeat or make impossible the use of masks, and thus may be used in conjunction with other lethal chemical weapons agents. Again, these agents should be considered RCA's.

Psychochemicals, such as LSD, BZ, and benactyzine, can be used to incapacitate both military and civilian personnel for a short period of time with a very low chance of fatalities. As incapacitants, these chemicals are akin to other RCA's.

Modes of chemical weapons dissemination

Several methods of dissemination have been used for the delivery of chemical weapons, including release of airborne gaseous agents from ground-based aerosol generators; artillery shells; mortar rounds; aerial spray tanks; missile warheads; artillery rockets; land mines; grenades; and aerial bombs. The most simple munitions among these contain a bulk-fill of agent surrounded by explosive charges. These charges detonate over the target, rupturing the munition and dispensing the agent as a stream or cloud of droplets. In the case of unitary agents, the munition contains the actual chemical weapon itself. Binary munitions, on the other hand, contain two precursors which mix beforehand or during flight to form the chemical weapons agent. Binary munitions are safer since the precursors are generally less toxic, but carry a smaller volume of agent once mixed.

Of course, chemical weapons do not require sophisticated delivery systems. Agent can be introduced against a target by a "crop-duster" or even by a single individual.

Warfighting uses of chemical weapons

Chemical weapons have several military uses. In particular, they can be used to kill or injure enemy troops. They may also force the enemy to take countermeasures—such as troop dispersal or decontamination—to protect against the harmful effects of the weapons, thereby reducing the combat effectiveness of enemy forces. In addition, the use of chemical weapons may be deliberately calculated to overburden an enemy's medical services or to disrupt logistical operations. The following chart provides a number of illustrative uses for chemical weapons. It is drawn from a 1993 Congressional Office of Technology Assessment study, "Proliferation of Weapons of Mass Destruction: Assessing the Risks."

TYPICAL WAR-FIGHTING USES OF CHEMICAL WEAPONS

Mission	Quantity
Attack an infantry position:	
Cover 1.3 square kilometers of territory with a "surprise dosage" attack of GB (Sarin) to kill 50% of exposed troops.	216 240-mm rockets (e.g., delivered by 18 12-tube Soviet BM–24 rocket launchers, each carrying 8 kilograms of agent and totaling 1,728 kg of agent).
Prevent launch of enemy mobile missiles:	
Contaminate a 25-square-kilometer missile unit operating area with 0.3 tons of a persistent nerve gas, such as VX, per square km.	8 F–16s or MiG–23s, each delivering 0.9 tons of VX (totaling 7.2 tons).

TYPICAL WAR-FIGHTING USES OF CHEMICAL WEAPONS—Continued

Mission	Quantity
Immobilize an air base:	
Contaminate a 2-square-kilometer air base with 0.3 tons of persistent nerve agent (VX) twice a day for 3 days.	1 MiG–23, or any similar attack aircraft, with six sorties.
Defend a broad front against large-scale attack:	
Maintain a 300-meter-deep strip of persistent nerve agent contamination in front of a position defending a 60 kilometer wide area for 3 days.	65 metric tons of agent delivered by approximately 13,000 155-mm artillery rounds.
Terrorize populations:	
Kill approximately 125,000 unprotected civilians in a densely populated (10,000 per square km) city.	8 MiG–23s, each delivering 0.9 tons of VX (totaling 7.2 tons) under optimum conditions.

From these illustrative examples, it is apparent that in many instances a small quantity of chemical agent is all that is required to achieve a militarily significant objective. Less than 2 tons of persistent nerve agent would be required to immobilize an airfield. Just 65 tons of VX, used to effect, could immobilize a 60 kilometer front for three days.

Moreover, a number of trends continue to lessen the quantity required for "military significance." First, with developments in the field of precision-guided munitions (PGM's), much less chemical agent will be required. Common artillery shells and many other non-precision systems have a circular error probable of more than several hundred meters. In order to ensure adequate coverage of a military objective—for example, using persistent nerve agent to close down an airfield—a far greater number of weapons and agent would be required than with "smart" munitions.

Second, technology itself drives the development of toxins and chemicals that are increasingly deadly in ever smaller quantities. We are very concerned over mounting evidence that Russia continues to pursue the development of new chemical agents in its binary chemical weapons program. In mid-February, 1995, Dr. Vil Mirzayanov, former chief of counterintelligence at the State Union Scientific Research Institute for Organic Chemistry and Technology, alleged that the Soviet Union developed, tested, and produced a new class of nerve agents five to eight times more lethal than any other known chemical agent. The Russian government has not been forthcoming about either "Substance A–230," "Substance 33," or "Substance A–232." According to Mirzayanov, the Russian Federation may continue work on these programs. Clearly, in some cases, smaller quantities of a novel, highly lethal agent would be required to achieve a militarily significant objective than would be the case with a more traditional agent.

Third, use of chemical weapons as a method of warfare does not necessarily depend upon chemical saturation of military targets. While progress has been made in the development of chemical protection equipment, such gear remains bulky and debilitating, restricts movement and work, and causes identification problems, heat stress, dehydration, sweat build-up, and breathing resistance. Chemical rounds interspersed judiciously with other conventional rounds would require the donning of protective gear and would degrade significantly an opponent's capability. At the dawn of an age of "information warfare"—where computers shape the modern battlefield—the difficulty of typing on a computer keyboard while

wearing protective gloves illustrates the potential military significance of chemical weapons.

Riot control agents

Some chemicals—such as tear gas, vomiting agents, and psychochemicals—are used as riot control agents (RCA). In 1975, President Ford signed Executive Order 11850, which defines current U.S. policy on the use of RCA's. Pursuant to the current executive order, military authorities are authorized to use RCA's to minimize military and civilian casualties under four broad scenarios, which include the following specific circumstances:

Where combatants use civilians as shields (U.S. forces in Mogadishu used tear gas in such an environment);

Against rioting enemy prisoners of war;

During search-and-rescue operations involving hostages, U.S. POWs, and downed aircrews;

In support of rear area operations;

In support of base defense;

In support of non-combatant evacuation operations;

In support of crowd control; and

In support of operations to protect or recover nuclear weapons.

The Clinton administration, however, intends to rewrite Executive Order 11850 to exclude two of the four scenarios. On June 23, 1994, President Clinton declared that:

> * * * according to the current international understanding, the CWC's prohibition on the use of RCAs as a "method of warfare" also precludes the use of RCAs even for humanitarian purposes in situations where combatants and noncombatants are intermingled, such as the rescue of downed air crews, passengers and escaping prisoners and situations where civilians are being used to mask or screen attacks.

While Article I of the CWC certainly prohibits the use of riot control agents (RCA) as a "method of warfare," we are at a loss to see how the administration can cite a "current international understanding" as justification for further restriction of the U.S. military's ability to use tear gas. Both the Chairman of the Joint Chiefs of Staff, General John Shalikashvilli, and then-Deputy Secretary of Defense, John Deutch, admitted in testimony before the Senate Armed Services Committee on August 11, 1994, that "neither the CWC nor the formal negotiating record define method of warfare."

We reject the notion that any "international understanding" on this issue could have existed at the time of the CWC's signing. Indeed the negotiating record is deliberately silent because of a lack of international agreement. According to General Shalikashvilli, who provided a written response for the record to a question posed by Senator Nunn on August 11, 1994:

> During the CWC negotiations, the U.S. delegation in Geneva believed that the phrase "method of warfare" could be interpreted as permitting all the uses of RCA's provided in Executive Order 11850. In Washington, some agencies were concerned that the delegation's interpretation was

> "easily contested," and that a clear statement in the negotiating record preserving all four uses was "essential." However, such a statement was not supported by our close allies, some of whom made clear that if the U.S. view was put forward, their view that the CWC prohibited all battlefield uses of RCA's would also be placed on the record. At that point, "to best protect our position" against a more damaging negotiating record, the U.S. delegation was directed to accept the provision without a negotiating record statement.

We agree with Senator Nunn, who stated in a written question on August 11, 1994:

> Dr. Deutch, the CWC does not prohibit the use of Riot Control Agents (RCA's) as defined in Executive Order 11850, in fact, the committee understands that the phrase "method of warfare" was chosen because of its constructive ambiguity—that is, there is no commonly accepted definition for "method of warfare." The committee also understands that the U.S. signed the CWC in Paris with the understanding that the treaty allowed for the use of RCAs as defined in Executive Order 11850.

The administration has justified its decision to issue a new Executive order on RCA's by citing concerns over a negative reaction from U.S. allies. General Shalikashvilli told the Armed Services Committee on July 11, 1994, that a new Executive order must be issued since a unilateral U.S. decision to retain E.O. 11850 "could cause serious divisions with key allies whose cooperation is essential to the CWC." Yet when the Department of Defense queried the British Embassy in June 1995 on the extent to which U.S. retention of the current Executive order would affect British ratification of the CWC, the Embassy responded emphatically in a letter on July 6, 1995, from Hugh Philpott:

> I understand that the RCA issue in the context of the CWC is still live. I would like to take this opportunity to restate the position of the U.S. Government, which has not changed since correspondence between HM Chief of Defence Staff and General Powell in 1992 and Ministry of Defence Undersecretary Omand and Mr. Slocombe last June. The enclosed speaking note covers the ground.

The talking points supplied by Mr. Philpott further stated that "Although we cannot rule out Parliamentary interest in the U.S. debate when our bill is introduced, [there is] no question of any linkage by HMG between U.S. position and our own ratification process." In light of this letter, we cannot but conclude that differences in interpretation of the RCA issue, while marked, would not have contributed to a "serious" crisis in cooperation on CWC issues between the United States and the United Kingdom.

More importantly, we are concerned that the Clinton administration has adopted an interpretation on RCAs that is contrary to that held by the Bush administration during the final negotiation and signing of the Convention, and contrary to the views of the U.S. military leadership. Again, according to General Shalikashvilli:

> Nevertheless, during the negotiations and at the time the CWC was signed in January 1993, it was the understanding of the service Chiefs that Executive Order 11850 would be preserved intact, and that a statement to this effect would be made by the administration during the ratification. In July 1993, the CINC's were informed of the review of the impact of the CWC on E.O. 11850 and were asked for their requirements for the use of RCAs. The CINC responses remained consistent and they insisted on preserving the ability of field commanders to use RCAs in accordance with the provisions contained in Executive Order 11850.

Despite this determination, made by senior U.S. military leaders, the Clinton administration decided that two of the four scenarios in the executive order—rescue of a downed pilot and civilians screening combatants—were inconsistent with the "current international understanding." According to the Chairman of the Joint Chiefs, "the CINC's were informed of this decision."

The administration's interpretation of the CWC, against the advice of the CINC's, will reduce U.S. capabilities in several types of military operations, such as search and rescue missions (where tear gas is used to protect helicopters from ground fire and surface-to-air missile threats), may consequently endanger the lives of U.S. personnel, and may force the United States to resort to lethal responses in other circumstances. We urge the Senate to reject ratification of the Convention unless the resolution of ratification contains a provision affirming and preserving the right to use RCA's in all circumstances currently permitted under Executive Order 11850. This was the intent of the Bush administration, and the understanding held by the CINC's at the time of the signing of the CWC in 1993.

Nonlethal weapons

Additionally, we are concerned that the CWC may restrict the development and employment of nonlethal weapons. Some nonlethal weapons currently envisioned are chemical compounds, though they are not traditional chemical warfare agents or riot control agents. For example, several novel, immobilizing agents may be developed from opioids derived from the fentanyl or medetomidine families.

The CWC defines chemical weapons as "toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes." A toxic chemical is further defined as "any chemical which through its chemical action on life processes can cause death, temporary incapacitation, or permanent harm to humans or animals." As a result of this definition, we are concerned that the development of nonlethal weapons that produce temporary incapacitation through chemical processes, rather than physical properties, will be constrained under the CWC. We urge the Senate to ensure that this will not be the case.

Deterrence in the post-cold-war world

The United States will abandon, with the CWC, the ability to deter the use of chemical weapons against the United States and its allies with the threat of retaliation-in-kind. General William Burns, then-Director of the Arms Control and Disarmament Agency, stated in testimony before the Committee on January 24, 1989:

> It is very difficult to prove when a deterrent works, but in this particular case, the United States has not been attacked by chemical weapons since it has had its stockpile. So, that one must at least suggest that this is due, to some extent, to having a stockpile.
>
> The problem I see right now in eliminating our stockpile unilaterally is the signal that would give to the rest of the world. Now, you could argue that it is a very positive signal—the United States has taken the lead in eliminating stockpiles unilaterally. You could also take it as a sign of weakness, a sign that the United States, for reasons not germane to arms control, not germane to a ban on chemical weapons, decided not to pursue binaries.

J.D. Crouch, former Deputy Assistant Secretary of Defense for International Security Policy during the Bush administration, echoed the view put forward by General Burns in his testimony before the Committee on March 13, 1996:

> Indeed, the historical evidence of where CW was used and where it was not used since the Geneva Protocol went into force strongly suggests that the ability to retaliate in kind is the best deterrent of chemical attack. Only once since World War I have chemical weapons been used in any significant way by states that both possessed a CW capability: the Iran-Iraq war. In this case, Iraq quite probably felt it had a major advantage over the Iranians in its offensive CW capability, in terms of numbers, sophistication of its agents, deployment means, and protection equipment and training.

Until 1991, the U.S. relied upon a defensive doctrine which incorporated two elements: (1) maintenance of a chemical weapons stockpile for use in retaliation and to ensure that potential users of chemical weapons would be forced to adopt defensive measures that would degrade their operational capabilities; and (2) reliance upon a robust defense capability. With respect to the former, the U.S. position in multilateral negotiations on a chemical weapons ban reflected the desire to maintain a chemical deterrent as a pillar of the U.S. defense doctrine.

Indeed, the 1990 Bilateral Destruction Agreement with Russia specifically allowed retention of 5,000 metric tons (500 metric tons if the CWC were ratified) of chemical agent for use as a deterrent. Similarly, the U.S. had favored in negotiations on the CWC retention of the 500 metric ton deterrent until all chemical weapons-capable countries had joined the Convention. That deterrent, it was decided, would be comprised of binary weapons. According to information on the U.S. chemical weapons stockpile declassified on January 22, 1996, the United States currently possesses 680.19 metric

tons of binary components (roughly approximating a 500 ton, binary deterrent) and 30,599.55 metric tons of unitary agent.

However, after the Gulf war, President Bush altered U.S. policy and committed to the elimination of the U.S. unitary chemical weapon stockpile. The Bush administration also adopted an initiative to forswear any chemical weapons retaliatory capability if and when the CWC entered into force. Walter Slocombe, Deputy Undersecretary for Policy, Department of Defense, elaborated the U.S. policy to the Committee on May 13, 1994:

> In March, 1991, the United States reenergized those negotiations [on the CWC] by announcing that to demonstrate United States commitment to banning chemical weapons, we are formally forswearing the use of chemical weapons for any reason, including retaliation, against any State, effective when the convention enters into force, and will propose that all States follow suit.

During testimony before the Senate Armed Services Committee on August 11, 1994, the Administration further clarified the current U.S. position:

> Under current policy, U.S. forces may use chemical agents or weapons only in retaliation to chemical weapons use against the United States or its allies. Upon entry into force of the CWC, the United States obligates itself to forswear retaliation-in-kind and adopt a policy of no use under any circumstances.

We are concerned that the Clinton administration, in explaining the rationale for the policy shift during the Bush administration, cited the U.S. experience during the Gulf war as proving that retaliation-in-kind was not required to deter Iraqi use of chemical weapons. The Chairman of the Joint Chiefs of Staff, General John Shalikashvilli, testified before the Senate Armed Services Committee on August 11, 1994:

> Desert Storm proved that retaliation in kind is not required to deter the use of chemical weapons. Should deterrence fail, a chemical attack against U.S. forces would be regarded as an extremely grave action subject to an appropriate non-chemical response of our choosing.

The same testimony was given before the Foreign Relations Committee. On August 11, 1994, General Shalikashvilli further clarified the nature of the deterrent communicated to Iraq during Desert Storm in a response to a question asked by Senator Exon:

> I agree that the Iraqis may not have been sure what type of force would have been used in retaliation of their use of chemical weapons. Only Saddam Hussein can tell why he chose not to use chemical weapons.
>
> * * * The type of retaliation we threatened was left deliberately vague, although advanced conventional weapons were the most credible deterrent.

However, we note that Walter Slocombe, Deputy Under Secretary of Defense for Policy, had testified before the Foreign Relations Committee on May 13, 1994 that:

> The position of the United States at that time [of the Gulf war] was not to specify how we would retaliate but to make clear that it would be a very powerful and effective response. *At that point it could, in principle, have included chemical weapons.* We did not rule out that possibility. The convention, of course, would rule out the possibility. [emphasis added].

Because the Bush administration had not removed chemical weapons from the list of available retaliatory options at the time of the Gulf war, we believe it is incorrect to suggest that Desert Storm serves as proof that the U.S. has no need for a chemical weapons retaliatory capability. Moreover, the security environment is no longer such that deterrence can be postulated in a consistent, reliable framework—regardless of the U.S. experience during the Gulf war.

An advanced conventional deterrent?

During testimony before both the Senate Committees on Foreign Relations and Armed Services, the administration suggested that advanced conventional weapons were the most credible deterrent available to the United States. Aside from such assertions, however, few convincing explanations on how conventional capabilities might supplant other deterrent options were forthcoming.

First, the very concept of deterrence implies that capabilities are held in reserve for the purpose of punishing a proscribed action. If the United States is to rely upon capabilities such as precision-guided munitions to deter a future aggressor from using chemical weapons, we wonder what conventional capabilities the U.S. would truly be willing to hold in reserve in a future conflict.

The assertion that the United States could mount a devastating conventional retaliation for the use of chemical or biological weapons may be belied by mounting evidence that budgetary cuts have seriously eroded the ability of the Armed Services to fulfill the national military strategy. On February 15, 1995, General George Joulwan, Commander in Chief of U.S. European Command, noted that the wargame "Nimble Dancer" conducted by the Pentagon demonstrated that the U.S. could successfully prosecute two major regional conflicts (MRC's), but only if all of the maximum force requirements specified in the Bottom-Up Review were available. Significantly, Nimble Dancer relied upon the availability of force enhancements, such as precision-guided munitions, which will not be available for another decade—at the earliest.

Other wargames conducted by the military services have raised even more troubling questions as to whether, in the event of two MRC's, the United States would be able to hold any advanced conventional weaponry in reserve for use as a deterrent. The Naval Logistics 2001 wargame conducted in the spring of 1994 raised the specter of ordinance shortfalls in the event of two nearly simultaneous conflicts. Using a model for U.S. force structure based upon current expenditure profiles, the wargame was designed to determine the extent to which two MRC's could be supported, the impact that industrial preparedness would have upon the conduct of the conflicts, and the amount of time required for regeneration and

reconstitution of military forces following the termination of conflict.

Notably, the U.S. military suffered from insufficient numbers of stand-off weaponry and shortages in ground force munitions. As a result of a number of factors which included funding limitations, cold production lines, delivery lag times of between 13 to 36 months, limits on productive capacity, and a general decline in the defense industrial base, both the sustainability of operations and the ability of the industrial base to reconstitute forces within a 7-year time frame were called into question.

Most recently, in connection with concerns associated with an underground Libyan chemical weapons plant, it was widely reported in the press that the U.S. military does not currently possess nonnuclear, Earth-penetrating munitions capable of destroying the facility. A series of tests conducted at White Sands Missile Range revealed that new, void-penetrating smart fuse weapons were incapable of destroying underground targets such as the Libyan chemical weapons plant. Without such a capability, according to Harold Smith, Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Programs, nuclear weapons remain the only available option to totally destroy Tarhunah. Smith recently stated in an interview with the press that "it is not clear we have the capability today to literally take that plant out of action for the indefinite future."

In sum, the suggestion that the United States has the capability, under any and all circumstances, to hold in reserve a punishing advanced conventional deterrent ignores growing evidence that the U.S. military does not have enough advanced conventional weaponry to fulfill the national military strategy, let alone to deter use of weapons of mass destruction. Shortfalls in force enhancements, particularly in PGM's, render likely the fact that one major regional contingency would absorb the lion's share—if not all—of the active U.S. military inventory. Even the relatively robust industrial base of the early 1990's was unable to provide sufficient numbers of some specific munitions throughout the course of the air campaign over Kuwait. By the end of the war, the cupboards were bare.

Second, we are concerned to know what additional target sets might be attacked if conventional forces are to be used in response to a chemical or biological attack. Would conventional forces be used against nonmilitary targets? How could such a threat be communicated to a future aggressor prior to their use of weapons of mass destruction? It would seem open to question as to whether a state would be deterred from using such capabilities if the United States is already using its deterrent against it in a conflict, or if the United States has already targeted the country's infrastructure on a large scale.

The United States will continue to be posed with a context-specific problem of determining who is to be deterred and how. National objectives and strategic cultures will prove critical variables affecting such determinations. These variables will ultimately shape the utility of a conventional deterrent. Some countries inclined to use chemical and biological weapons may not be deterred by the threat of massive conventional retaliation directed against

its conventional order of battle. Indeed, the number of main battle tanks, armored fighting vehicles, and artillery that an aggressor fields may be less important to a future opponent than other imponderables. Finally, the way a country seeks to shield its valued capabilities from the United States—presumably among civilians or hostages—will also create problems for any deterrent. We believe that, in the future, deterrence will require additional flexibility rather than less. Unless the U.S. possesses flexibility in its options, we may find ourselves unable to deter countries under some circumstances.

In an April 19, 1996 response to a question submitted for the record, the administration stated that the United States has had a long-standing policy "not to specify in advance what response we would make to CW [chemical weapons] use against the United States, its forces or its allies; however, we would consider all options and our response would be absolutely overwhelming and devastating."

While we are heartened by such a declaration, we do not believe the Senate should agree to any arms control treaty which effectively forecloses retaliatory options to the United States but not to other countries, either because they have not signed on to the treaty or because they are not abiding by it. Accordingly, we urge the Senate to insist that unless and until the United States may be assured that chemical weapons will not be used against our troops, citizens, or our allies, the U.S. should retain the option to retaliate-in-kind. The Senate should stipulate, in no uncertain terms, that in the event that another States Party to the Convention uses chemical weapons against the United States or its allies, the Convention shall cease to be binding upon the United States with respect to use.

The U.S. Senate first adopted such a reservation to the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (the 1925 Geneva Protocol). That proviso, still in effect today, generally states that if another Party to the Geneva Protocol uses chemical weapons against the United States or its allies, the Protocol will cease to be binding on the United States. Such an approach, taken with the CWC, would recognize the contribution made to deterrence and to our national security by the maintenance of options and strategic ambiguity.

Because we are concerned that a number of chemical weapons possessor states have neither signed nor ratified the Convention, we also believe it advisable for the Senate to require Presidential certification, prior to the destruction of the last 500 metric tons of binary agent, that all states that have ever possessed or sought to develop chemical weapons have ratified and are abiding by the terms of the Convention. In the event that such a certification is impossible, we believe the administration should consult urgently with the Senate over the fact that countries still continue to possess chemical weapons while the United States is contemplating complete elimination of its stockpile.

A nuclear deterrent?

There is no question that U.S. ratification of the CWC ultimately will void the U.S. formally of a capability to respond in kind. Debate in the Committee centered over the advisability of doing so, and the efficacy of alternative means of deterrence. During the Committee's consideration of the CWC, the administration did not clearly articulate how a new U.S. deterrence policy would work. On March 28, 1996, Senator Pell questioned Secretary of Defense William Perry about what the U.S. response would be to a chemical weapons attack upon the United States military. Senator Pell indicated that the U.S. had but two alternatives: "conventional and nuclear. There is not much else." Secretary Perry responded by saying: "The whole range would be considered; that is correct."

We are concerned that this statement suggests a far greater range of options than actually may be available. In the first instance, biological weapons are no longer an option—having been foresworn with U.S. ratification of the Biological Weapons Convention. Nor would chemical weapons be an option with ratification of the CWC. The third option—an advanced conventional deterrent—would seem to have a number of liabilities. This would seem to point to nuclear weapons as the most likely retaliatory option at the disposal of the United States.

Certainly the administration refused to either rule in or rule out reliance upon a nuclear deterrent in written responses to questions submitted by the committee for the record. The ambiguous response submitted to the committee on April 19, 1996 stated:

> There has been no change in U.S. policy on negative security assurances * * * Secretary Perry's March 28 statement simply reaffirmed that the United States would consider all options in response to a CW attack upon the United States, its forces or allies, and that our response would be absolutely overwhelming and devastating. This statement and others made by Administration witnesses during testimony in support of the CWC ratification was meant to make clear that U.S. renunciation of chemical weapons does not diminish our ability to deliver a devastating response to the use of chemical weapons against the United States, its forces, or allies.

But if the administration truly contemplates nuclear retaliation for chemical weapons use, such might be at odds with a long-standing U.S. commitment to not use nuclear weapons against a non-nuclear weapons state. On August 4, 1994, the Director of the Arms Control and Disarmament Agency reiterated U.S. policy on negative security assurances to the Conference on Disarmament, saying:

> The U.S. presidential commitment stands. Our unilateral commitment stresses that assurances will be provided to non-nuclear states that are parties to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices, such as the Tlatelolco Treaty, unless the U.S. is attacked by that non-nuclear weapon state in alliance with a nuclear weapon state.

According to such a political commitment, the U.S. will not threaten use of nuclear weapons against any country that does not have nuclear weapons and is not allied to a nuclear weapon state. For instance, a nuclear deterrent may not be communicated to Iran, which is a party to the NPT.

Furthermore, in signing the Protocols to the African Nuclear Weapons Free Zone Treaty, the administration has set upon a course that would legally prevent the United States from threatening or using nuclear weapons against any country in the zone. In such a web of international agreements, the U.S. could very well find itself unable to deter with the threat of nuclear retaliation a country such as Libya—which has neither signed nor ratified the CWC—from using chemical or biological weapons.

How can the U.S. consider a "whole range" of options if it has foregone two—chemical and biological—because of treaties, does not possess enough of one—conventional—because of budgetary constrains, and foresworn the last—nuclear—because of a political commitment? It may be more accurate to state that, with the CWC, the U.S. will have but one, as of yet undeveloped, means by which to deter attack by chemical weapons. That is, unless the U.S. is to reconsider a long-standing negative security assurances policy. In sum, the United States may be forgoing flexibility in its deterrent posture at the very time that such latitude may prove increasingly vital.

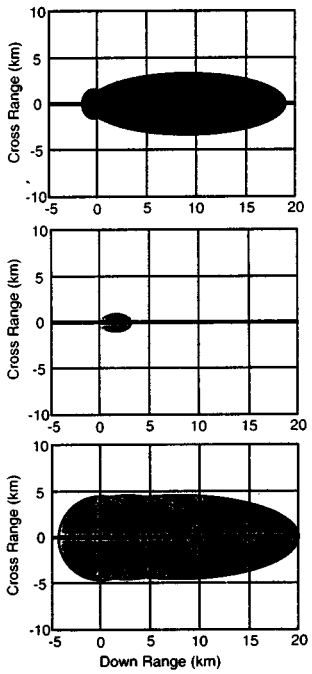
We believe, in order to communicate a credible deterrent, the Administration must reevaluate its negative security assurance policy to determine whether the United States should still provide guarantees that it will not use nuclear weapons against a nonnuclear weapons state, even if that state uses chemical weapons against the U.S. military, U.S. citizens, or allies. The Senate should require the administration to resolve these concerns by requiring the President to submit a clearly defined deterrence strategy to the Congress before the U.S. accedes to the CWC and forgoes one more option.

Credibility of the nuclear deterrent

Additionally, we are concerned that domestic constraints also may rule out nuclear retaliation under some circumstances. This is troubling since, in order to deter attack upon the United States or our allies, the U.S. must be willing to use its deterrent if attacked. Moreover, that willingness must be perceived by any would-be aggressor contemplating the use of chemical weapons. The fundamental concern in this regard relates to the willingness of any U.S. President to consider the full range of options available for retaliation. The comparative effects of nuclear weapons use are so much greater than chemical weapons use, in orders of magnitude, that under many circumstances nuclear retaliation would prove far disproportionate to a chemical weapons attack.

An April, 1996, assessment by the Office of the Secretary of Defense entitled "Proliferation: Threat and Response," provides a comparison of nuclear, biological, and chemical damage contours which demonstrate the dramatic differences in effect between each type of weapon:

COMPARISON OF NUCLEAR, BIOLOGICAL, AND CHEMICAL DAMAGE CONTOURS



Nuclear

The damage contours shown indicate the 450 Rad dose region for the prompt radiation effects and the distribution of fallout from the surface burst of a 20kt nuclear device.

Chemical

The damage contours shown indicate the chemical dosage effects (ranging from 0.1 mg-min/m^3 to 100 mg-min/m^3) for a large missile filled with large sub-munitions containing GB (Sarin).

Biological

The damage contours shown indicate the areas of biological contamination for a missile filled with multiple bomblets containing anthrax agent. The areas correspond to 80, 50, and 35 percent casualties.

Put into a regional context, the differences in effect between nuclear and chemical retaliation are marked. According to Anthony Cordesman, using a SCUD-sized delivery vehicle with a maximum payload of 1,000 kg against a target with a population density of between 3,000 and 10,000 people per square kilometer (a density typical, for example, to urban centers in the Middle East), the following effects would be had:

COMPARATIVE EFFECTS OF CHEMICAL, BIOLOGICAL, AND NUCLEAR WEAPONS

[From Ratifying the Chemical Weapons Convention]

	Area covered (km^2)	Fatalities
Chemical: 300 kg of Sarin nerve agent with a density of 70 milligrams per cubic meter	0.22	60–200
Biological: 30 kg of anthrax spores with a density of 0.1 milligrams per cubic meter	10	30,000–100,000
Nuclear (tactical): One 12.5 kiloton nuclear device achieving 5 pounds per cubic inch of over-pressure	7.8	23,000–80,000
Nuclear (Strategic): One 1 megaton hydrogen bomb	190	570,000–1,900,000

Given the disproportionality of a nuclear deterrent, we are concerned that even in the worst-case scenario, there may be a tremendous reluctance on the part of the United States to even threaten the use of nuclear weapons. While any nuclear response truly would be "absolutely overwhelming and devastating," that very fact raises the possibility that domestic political constraints may limit exercise of this option.

On March 13, 1996, J.D. Crouch, former Deputy Assistant Secretary of Defense for International Security Policy during the Bush Administration, testified that:

I recall the difficulty that the Bush Administration had during the Gulf War to make clear publicly and privately to the Hussein regime that any use of Iraqi CW or BW could result in a U.S. nuclear response.

The difficulty associated with threatening nuclear retaliation for chemical weapons use derives from the fact that use of nuclear weapons would represent a quantum leap up the escalatory ladder. In ratifying the CWC, the United States would, in effect, remove another link from the chain reaction of nuclear deterrence. In conflict, escalation control will prove correspondingly difficult because all flexibility will have been removed from the U.S. retaliatory response.

We believe the lack of an extended deterrent capability may become exceedingly dangerous as the United States finds itself facing opponents armed not just with chemical weapons, but with their own nuclear capability. A number of countries with aggressive chemical weapons programs are also actively seeking nuclear weapons. Iran and North Korea are but two countries that may possess both in the foreseeable future. Indeed, the Russian Federation and the People's Republic of China already possess nuclear and chemical weapons capability, and both have ongoing biological programs as well. We wonder how effective a nuclear deterrent may be if the United States finds itself engaging even a minimally armed nuclear power.

Capability of the nuclear deterrent

If the United States places greater demands upon our nuclear force by expanding the scope of its deterrence missions, it will do so at a time when the U.S. Navy essentially has been tactically denuclearized and the U.S. Army has been completely divested of a battlefield nuclear capability. The then-Chairman of the Joint Chiefs, General Colin Powell, stated in 1993 that "The Navy, the Marine Corps, and the Army now totally rely on the Air Force for any potential nuclear weapons they need on the battlefield." As a result of General Powell's initiative, the only latent tactical nuclear capability residing in the U.S. Navy is aboard submarines, which carry Tomahawk cruise missiles. At the same time, NATO's tactical nuclear stockpile has been reduced from 10,500 to 1,500 weapons.

These trends led J.D. Crouch to observe in testimony before the Committee on March 13, 1996:

> * * * it is unlikely that we would deploy those tactical nuclear assets with our conventional forces in a crisis, leaving us, I think, a very inappropriate threat of strategic nuclear forces, which would raise a serious concern about a Russian or Chinese reaction to a launch, or even the threat of the use of those forces.

The United States has vastly scaled back its strategic nuclear capabilities. The United States has already committed to the START II Treaty, which will require deep reductions in U.S. strategic forces. Secretary of Defense William Perry testified before the committee that the U.S. allocation of 3,500 warheads under START II:

> * * * will be divided among ICBM, SLBMs and the bombs and warheads on our bombers. An approximate disposition of this force would be 500 ICBM warheads, fewer than 1,700 SLBM warheads, and approximately 1,300 warheads on bombers * * * Based on present planning, that is the way we would distribute our forces under START II. I believe this would be, of course, entirely capable of carrying out our mission of strategic deterrence.

We are troubled that, with no new strategic systems under development, the United States now may be forced to call upon an aging fleet of strategic nuclear delivery vehicles to respond to chemical weapons attack, as well as to serve as a nuclear deterrent. Moreover, the creation of a new deterrence mission for the U.S. strategic force creates the potential for an expansion in the number of targeting requirements at precisely the same time that the U.S. strategic arsenal is being dramatically reduced, thereby threatening the START II equilibrium between targets and strategic capability.

The need for robust passive and active chemical defenses

As has been noted, the United States has long relied upon a defensive doctrine which included as paramount the need for a robust chemical defense capability. In testimony before the Committee on June 23, 1994, General Shalikashvilli stated:

> First, a chemical weapons defense program is essential not only to protect U.S. forces but also to ensure their com-

> bat effectiveness in a chemical environment. A well trained and protected force is not as vulnerable to a chemical weapons attack as a force lacking these essential attributes.

Amoretta Hoeber, former Deputy Undersecretary of the Army during the Reagan Administration, testified on March 13, 1996, that:

> Today, I think our defense capability is adequate. I am very concerned, however, about the trends. The trends are negative. They are towards the direction of reducing the adequacy of our defensive posture. Let me make three points on that:
>
> First off, financially. It requires not a great deal. It requires perhaps about half a billion dollars a year out of the entire defense budget to maintain an adequate defense capability. The trend is towards reducing that amount. The Pentagon is asking for less because they believe that the [CWC] Treaty will solve part of their problem * * *
>
> Secondly, our training capability is going down with the loss of Fort McClellan.
>
> And, thirdly, of course, the intelligence capability will need to be beefed up considerably, in order to keep the defense up-to-date. Because you have to keep abreast of new developments in agents and capabilities.
>
> * * * If we do not, I think we are encouraging any opponent to develop a capability and use it against us.

Passive chemical and biological defenses

We are concerned that, despite Administration testimony indicating commitment by the Department of Defense to a robust chemical defense capability, a March 1996 study by the General Accounting Office (GAO) found that some elements of the U.S. military may not be adequately prepared, trained, or equipped to protect against the use of chemical or biological agents.

Some of the most significant findings of the study were that none of the Army's five active divisions which made up the crisis response force, nor any of the early deploying reserve units in the Gulf war, were properly equipped to deal with a chemical or biological threat. All had shortages of critical equipment. In fact, three of the divisions had 50 percent or greater shortages of protective clothing. Shortages of other critical gear ran as high as 84 percent, depending on the item in question.

During the Gulf war, many Army medical units had on hand only about 50 to 60 percent of authorized patient treatment kits and decontamination kits. Some of the kits that they did have were missing such critical components such as drugs for treating chemical casualties. They further lacked the equipment needed to treat patients in a chemically or biologically contaminated area.

The March 1996 study also found serious training and readiness problems in both the Army and Marine Corps. Analysis of Army readiness evaluations revealed a wide variety of problems, including inability to properly don protective gear, improper deployment of detection equipment, and failure to integrate chemical and biological issues into operational plans. Marine Corps units are af-

fected by many similar problems, including untimely submission or warning reports, inexperience with detection equipment, and improper response to chemical attacks. Under the Joint Staffs Status of Resources and Training System (SORTS) each unit in the U.S. Armed Services is required to report on its readiness, as well as extent to which they possess the required resources and are trained to complete their wartime mission. The reports are troubling. One early deploying Army division, for instance, has been rated C–4 in terms of chemical and biological equipment readiness. The following table is drawn from the GAO assessment:

Task	2d Army (percentage of units inadequately trained)	5th Army (percentage of units inadequately trained)
Donning protective masks:		
Active	39	50
National Guard	57	88
U.S. Army Reserve	84	81
Decontamination:		
Active	33	10
National Guard	61	60
U.S. Army Reserve	48	75
School-trained NBC officer		
Active	5	17
National Guard	31	34
U.S. Army Reserve	35	19
Preparing for a chemical attack:		
Active	67	23
National Guard	77	50
U.S. Army Reserve	50	60
Responding to a chemical attack		
Active	63	15
National Guard	53	67
U.S. Army Reserve	56	60
Integrating chemical and biological tasks into training:		
Active	26	0
National Guard	31	35
U.S. Army Reserve	29	40

Note: The 2d Army was subsequently consolidated with the 1st Army, as the 5th Army was consolidated with the 6th Army.

In light of these findings, we are concerned that a future conflict could expose U.S. forces" lack of preparedness to defend against chemical and biological agent attacks and what seems to be a pattern of reliance on post-mobilization activities to overcome chemical and biological defense readiness problems. U.S. forces are not fully prepared to defend against the use of chemical weapons, and needless casualties and a degradation of U.S. operational capability may result from any such use.

These problems, first brought to light in 1991, are likely to continue given contemplated reductions in funding and an inadequate military emphasis on chemical and biological defense. The Department of Defense allocates less than 1 percent of its budget to chemical and biological weapon defense activities, and yet annual funding for this area has decreased by over 30 percent during the Clinton administration, from $750 million in fiscal year 1992 to $504 million in fiscal year 1995. Moreover, we are troubled with the recent plan put forward by the then-Vice Chairman of the Joint Chiefs of Staff, Admiral William Owens, to cut another $805 million from counter-proliferation support and chemical and biological

defense programs through fiscal year 2001. Such a reduction would cripple planned chemical and biological research and development efforts, and delay the procurement of critical technologies. Even though that initiative was defeated, at the time of the committee's consideration of the CWC the Department of Defense was nevertheless contemplating a reduction of at least $33 million.

Such initiatives do not bode well for the maintenance of robust chemical defenses. History suggests that Admiral Owens' proposal may prove an opening salvo in an effort by some in the military to redeploy funds for chemical weapons defense to other priorities. Following ratification of the BWC, for example, the United States cut research and development on protection against biological agents by one-half. Regardless of the CWC's entry-into-force, however, the U.S. military will remain in need of improved protective gear, equipment, decontamination capabilities, and training. This will remain critical for the U.S. military given the fact that a number of chemical weapons possessor states have not even signed the CWC, and most other ratifiers are expected to keep their programs.

Finally, we are concerned that the CWC will constrain U.S. protective efforts by limiting the production of chemicals weapons for research on defenses to a single, small-scale facility which cannot produce agent in large quantities or on a continuous basis. Furthermore, this facility—and all areas where U.S. Government research on protective measures using Schedule 1 chemicals is occurring—will be subject to inspections the number, intensity, duration, timing, and mode of which are open-ended and based upon the OPCW's judgement of "risk to the object and purpose of the Convention." This raises the likelihood that "routine" Schedule 1 inspections may be used by countries with active chemical weapons programs to pursue intelligence collection about U.S. chemical weapons defenses.

At a minimum, we urge the Senate to require the President to detail annually to the Congress the administration's priorities for the maintenance of robust, active and passive chemical and biological defenses.

Active chemical and biological defenses

The chemical and biological weapons threat to the United States is evolving and growing. The role of active defensive systems in responding to this challenge deserves some comment. J.D. Crouch, former Deputy Assistant Secretary of Defense for International Security Policy during the Bush Administration, testified on March 13, 1996, that he believed chemical weapons defenses were "adequate"

> * * * at least as far as passive defenses are concerned. I think that there is another realm here, and that is active defense. The CW threat in many of these states will be combined in the future with a ballistic missile proliferation threat. And it seems to me that this threat will begin to threaten our allies first, and then, eventually, may threaten the United States directly.
>
> We do not have the ability to deal with this at either the theater missile defense or the strategic missile defense

level. And I would say that, in that case, we are woefully unprepared.

At the theater level, chemical weapons proliferation and the spread of missile delivery vehicles will make the use of forward-basing for U.S. forces increasingly difficult. The likelihood will continue to grow that future potential aggressors will seek to detect and engage U.S. crisis response forces at their points of entry into theater. Indeed, several countries may be seeing to acquire missile capability, missile inventories, and chemical weapons with an eye to precluding the U.S. military from any forward deployment that is unprotected by active defenses, such as theater missile defenses. The ultimate objective of some states may be to deter the U.S. from intervening at all in a region in defense of its national security interests.

We therefore view as critical the development of effective theater missile defenses (TMD) to protect U.S. troops, and continue to be concerned that the effectiveness and capabilities of programs such as the Theater High Altitude Area Defense, Navy Upper Tier, and Brilliant Eyes are being constrained in such a way as to render U.S. troops more vulnerable than need be the case, or than is acceptable, in the turbulent post-cold war environment. In particular, some on the committee are concerned that the administration is considering an expansion of the 1972 Anti-Ballistic Missile Treaty's limitations to include TMD systems through a joint declaration with the Russian Federation.

We are further concerned that the proliferation of WMD and ballistic missile technology has become so pronounced that the possibility of a direct attack upon the United States constitutes a present and growing danger. The then-Director of Central Intelligence, James Woolsey, testified before Congress in 1993 that more than twenty-five countries either possess or are in the process of acquiring nuclear, chemical, or biological weapons. In addition, he testified that thirty or so countries already possess ballistic missiles, and nine Third World countries, such as Egypt, India, Iran, Iraq, North Korea, and Argentina, produce such missiles. Four more—Brazil, Libya, Pakistan, and Syria—are seeking a productive capability. Accordingly, it seems clear that the number of states with ballistic missile arsenals continues to grow, and that a few countries are looking to acquire large inventories.

The evidence also suggests that countries engaged in the development of ballistic missiles are alarmingly willing to collaborate with one another. There seems to be no other convincing explanation for the fact that fourteen countries around the globe field some type of Soviet-made missile. Both Libya and Egypt, for example, have transferred missiles to other countries. China has sold intermediate range missiles to Saudi Arabia and missile technology to Iran, Syria, and North Korea. Iran is collaborating with North Korea and Syria on various missiles. It was widely reported in the press that Russia had transferred whole ballistic missile components to Iraq. Finally, North Korea reportedly is willing to supply both missiles and missile production facilities.

Accordingly, we believe the United States urgently needs a national missile defense. Limitations imposed by the 1972 Anti-Ballistic Missile Treaty, however, prohibit the U.S. from deploying a sys-

tem capable of defending America against even the most limited of ballistic missile attack.

B. IMPLICATIONS FOR INDUSTRY

The CWC is unprecedented in its requirement for data declarations and intrusive, on-site inspections of private facilities that produce dual-use chemicals. In assessing the impact of the CWC upon U.S. businesses, it is most helpful to begin with a review of the chemicals covered by the treaty. By examining the types of chemicals to be regulated, it will become readily apparent that the CWC will impose controls and require information from a sizeable number of companies engaged in a variety of industrial enterprises. The CWC will affect chemical, automotive, biotechnology, pharmaceutical, paint and varnish, electronics, textiles, food processing, soap and detergent, and cosmetic companies, among many others.

What Substances Are Covered By the CWC?

Those toxic chemicals and biological agents regulated by the CWC are identified in the three schedules (lists) contained in the annex on chemicals. Chemicals are arranged according to their importance to chemical weapons production and the extent to which they are have legitimate, commercial applications. Schedule 1 of the CWC lists chemicals developed for use as chemical weapons, or for use as a precursor in the final stage of development of a chemical weapon. Schedule 2 identifies chemicals which are not produced in large commercial quantities, and which could be used as a chemical weapon, or as a chemical weapon precursor. Schedule 3 lists other chemicals which have large commercial applications and which also have been produced, stockpiled, or used as either a chemical weapon or a chemical weapon precursor. Finally, the CWC will also affect companies producing "discrete organic chemicals" (which is, essentially, any carbon compound).

Companies involved in the production (and in some cases, use or consumption) of chemicals listed in Schedules 1, 2, 3 and discrete organic chemicals in quantities above the thresholds specified in the CWC will be required to report annually to the federal government. Most of these companies must also be prepared to receive visits from foreign inspectors.

SCHEDULE 1

Schedule 1 lists chemicals and chemical compounds presumably with few commercial applications. Item 1 of Schedule 1 is not simply the toxic chemicals Sarin and Soman, but rather a formula which includes those two chemical weapons, along with 149 other compounds. Another item on Schedule 1, for example, is a formula containing more than 5,000 compounds.

Even if their uses are limited, these chemicals and toxins are essential for certain commercial applications. Some of them, such as saxitoxin and ricin, are important research tools for biochemical, pharmaceutical and toxicological research. Advanced studies of nerve signal transmission would be extremely difficult without access to saxitoxin. Other Schedule 1 chemicals may also have important medical applications. One of the nitrogen mustards, HN2, has

already been used under names such as Caryolysine, Embichen and Nitrogranulogen for the treatment of certain forms of cancer.

According to the Organization for the Prohibition of Chemical Weapons (OPCW), other chemicals on Schedule 1 have uses in pesticide and insecticide development and as flame retardant additives to plastics, resins, and fibers. Additionally, Ethylphosphonyl difluoride and Methylphosphonyl difluoride have industrial uses in organic synthesis.

SCHEDULE 2

Schedule 2 contains a significant number of chemicals that, beside their possible use as precursors for chemical weapons, have some commercial applications. Schedule 2 contains 7 individual compounds and 7 families of compounds. One item on Schedule 2, for example, covers nearly 24,000 different chemicals. The first listing on Schedule 2B contains all compounds not on Schedule 1 which contain a phosphorous atom to which is bonded one methyl, ethyl, or propyl group but no further carbon atoms. This covers dozens—if not hundreds—of chemicals, some of which have legitimate commercial applications. The following table identifies just a few such chemicals under this heading which have direct commercial applications:

Schedule 2B (4) Chemical	Commercial Application
Diethyl ethylphosphonate	Antifoaming agent, Heavy metal extraction, gasoline additive, plasticizer
Diethyl methylphosphonite, Dimethyl ethylphosphonate, Ethylphosphonous dichloride, Ethylphosphonyl dichloride, Methylphosphonous dichloride, Methylphosphonous difluoride, Methylphosphonyl dichloride.	Organic synthesis
Dimethyl methylphosphonate	Flame retardant

Also, Methylphosphonic acid and its derivatives all belong to the first family of chemicals listed on Schedule 2B (4). These chemicals are important starting materials for many widely used products, such as glyphosate, which is used to combat the water hyacinth, and glyphosine, which is used as a chemical ripener for sugar cane. The dimethyl ester is used for the production of flame retardant impregnations of textiles and other items.

Schedule 2B (7), Arsenic trichloride, has many applications as a starting material in organic synthesis, including the production of some pharmaceuticals and insecticides. It is also used in the ceramic industry. If it is not available some types of ceramics cannot be produced.

Schedule 2B (8), 2,2-Diphenyl-2-hydroxyacetic acid is used in organic synthesis.

Schedule 2B (9), 3-Quinuclidinol, is used as a hypotensive agent, and in the synthesis of pharmaceuticals.

One of the more versatile chemicals is thiodiglycol, Schedule 2B (9). It is extensively used, under various brand names, as a carrier for dyes in the textile printing industry. It has further applications in the manufacturing of some types of plastics as well as a lubricant additive. Thiodiglycol is also used as a solvent in ball-point pen ink.

Schedule 3

The main commercial use of most of Schedule 3 chemicals is for production of various organic chemicals, ranging from gasoline additives to pharmaceuticals, from detergents to pesticides, and from flame retardants to dyestuffs. There are 17 compounds on Schedule 3.

Schedule 3A(4), Chloropicrin, has important uses for the disinfection of cereals and grains, considerably increasing the possible storage life. It is also used as a soil insecticide to sterilize the soil before the planting of crops that are very sensitive to weed competition.

Schedule 3B (5), Phosphorous oxychloride, is used as an insecticide, as a chlorinating agent, flame retardant, gasoline additive, hydraulic fluid, organic synthesis, plasticizer, and as dopant for semiconductors.

Phosphorous trichloride, Schedule 3B(6), is used in dyestuffs, surfactants, plasticizers, gasoline additives, insecticides, and in organic synthesis.

Phosphorous pentachloride, Schedule 3B(7), is used as a pesticide, in plastics, and in organic synthesis.

Trimethyl phosphite, Schedule 3B(8), is used in insecticides, organic synthesis, veterinary drugs.

Triethyl phosphite, Schedule 3B(9), is used in insecticide synthesis, as a lubricant additive, in organic synthesis, and as a plasticizer.

Schedule 3B(10), Dimethyl phosphite, is used in insecticide production, as a lubricant additive, in organic synthesis, and as a veterinary drug.

Diethyl phosphite (Schedule 3B(11)) is used in the production of insecticides, as a gasoline additive, as a paint solvent, in the synthesis of pharmaceuticals, and in organic synthesis.

Sulfur monochloride (Schedule 3B(12)) is used extensively as an intermediate and chlorinating agent in the production of dyes and insecticides. It is also used for cold vulcanisation of rubber, in the treatment of vegetable oils and for hardening soft woods, in pharmaceuticals, organic synthesis, as a polymerization catalyst, and in the extraction of gold from ores.

Thionyl chloride, Schedule 3B(14), is used in batteries, engineering plastics, pesticides, as a catalyst, surfactant, chlorinating agent, and in organic synthesis of herbicides, drugs, vitamins, and dyestuffs. Common agricultural products involving this chemical are: Fenvalerate, Endosulfan, Methidathion, Flucythrinate, Fluvalinate, Lethane, Diphenamit, Napromaide, Propamide, Tridiphane, Topan, and Pipertain.

Schedule 3B(17), Triethanolamine, is another chemical with a widespread use. Because of its surface active properties it is added to waxes and polishes and is used as a solvent for herbicides, shellac and various dyes. It is also used for producing emulsions of various oils, paraffins and waxes, as well as for breaking up emulsion. It is an important ingredient of the cutting oil used for metal shaping. Further uses include in detergents, cosmetics, corrosion inhibitors, as a plasticizer, rubber accelerator, and in organic synthesis.

Discrete Organic Chemicals (DOC's)

There is no list of DOC's or PSF chemicals to be found in the CWC. Instead, the CWC generally defines DOC's as:

> * * * any chemical belonging to the class of chemical compounds consisting of all compounds of carbon except for its oxides, sulfides and metal carbonates, identifiable by chemical name, by structural formula, if known, and by Chemical Abstracts Service registry number if assigned.

This definition excepts plant sites that exclusively produce explosives or hydrocarbons (including all the normal processes, chemical and physical, carried out in petroleum refining to produce chemicals containing only carbon and hydrogen). At the time of this writing, polymers from monomers, beverages from a fermentation process, rocket propellants, and high sulfur crude, however, are not excepted. PSF's are DOC's with a phosphorous, sulfur, or fluorine atom attached.

As can be seen, this definition captures thousands of chemical compounds—so many that it is impossible to list them here. The OPCW has recommended that countries use Chapter 29 of the Harmonized System for export controls as the basis for identifying DOC's.

How many businesses will be affected by the CWC?

Our review of information provided by the Arms Control and Disarmament Agency persuades us that between 3,000 and 8,000 companies will be required to submit annual data declarations to the Federal Government and receive annual, routine inspections of their facilities by teams of foreign inspectors. While it is clear that thousands of U.S. companies, large and small, will be affected by the CWC, we understand that an exact estimate is impossible at this time since companies are under no legal obligation to submit information to the Federal Government. However, we are concerned that recent estimates provided to the Committee by the Administration may understate the number of companies that will be subject to the regulatory burdens of the CWC.

In 1993, the Congressional Office of Technology Assessment (OTA) published a study suggesting that the CWC would affect over 11,200 plants. Citing information provided by the Arms Control and Disarmament Agency (ACDA) during a December 23, 1992 interview with an ACDA consultant, the OTA reported that:

> Only a few pharmaceutical companies that produce toxic anti-cancer drugs are covered under Schedule 1;
>
> Between 200 and 300 U.S. plants produce, process, or consume more than the threshold quantity of Schedule 2 chemicals;
>
> Roughly 1,000 produce more than the threshold of Schedule 3 chemicals; and
>
> At least 10,000 plants are believed to produce more than the threshold quantity of discrete organic chemicals.

In October 1994, the Department of Commerce and ACDA published a refined assessment of the CWC's impact. In outreach mail-

ers to industry, Commerce and ACDA concluded that roughly 6,300 facilities would be covered under the CWC:

We anticipate that up to 15 U.S. industrial sites will be affected;

About 100 U.S. industrial sites will be affected;

About 200 U.S. industrial sites will be affected; and

We estimate that up to 6,000 facilities could be affected.

In 1996, ACDA again reduced its estimate. On May 14, 1996, the Director of the Arms Control and Disarmament Agency (ACDA), John Holum, wrote to the Chairman stating that "we are operating on the assumption that up to 3,000 companies could potentially be affected in some manner by the CWC." At that time, ACDA provided the committee with a list of companies that it deemed likely to be affected by the CWC. That list contained 11 Schedule 1 facilities, 31 Schedule 2 sites, roughly 100 Schedule 3 sites, and approximately 2,000 discrete organic chemical producers.

However, the information forwarded to the Foreign Relations Committee seems to be just the tip of the iceberg. On May 17, 1996, Senator Kyl was told by ACDA that 81 industry sites in Arizona may have "some involvement with implementation of the Chemical Weapons Convention." Yet ACDA had identified for the Committee only 9 such facilities in Arizona. In general, the ACDA list does not appear to include many firms that produce discrete organic chemicals.

In response to further questions by Chairman Helms on May 24, 1996, ACDA released to the committee a second list of companies on June 21, 1996. This one contained 8,715 new industry sites. Although ACDA contended that the subsequent list consisted solely of companies "unlikely" to be affected by the CWC, this list contained the additional sites which Senator Kyl was told may have some involvement with the CWC.

In fact, the second list identifies additional facilities which were included in the database in 1993 because of their "work with organic chemicals." Since 1993, it seems that ACDA has developed no new information about 5,583 of these facilities to confirm or deny that they would be affected by the CWC. Accordingly, we believe it inappropriate to simply "rule them out." Indeed, as Senators have contacted these additional companies to ask them to review the CWC, it has become apparent that several of these companies, too, will be affected.

This would seem most probable when companies on the second ACDA list engage in the same industrial activities as companies on the May 14, 1996, list. For example, in the first list, ACDA identified Goodyear Tire, the Kelly-Moore Paint Company, and Strohs Brewery as likely to be affected by the CWC. Therefore it would seem possible that Robbins Tire, Ellis Paint, and the Coors Brewing Company (all on the second list) might also be affected.

The following chart provides state-by-state totals for companies likely (the May 14, 1996 list) and possibly (the June 21, 1996 list) affected:

STATE-BY-STATE IMPACT OF THE CWC

	Likely	Possible	State total
Alaska	2	4	6
Alabama	41	64	105
Arkansas	23	43	66
Arizona	9	48	57
California	142	672	814
Colorado	11	61	72
Connecticut	42	105	147
Delaware	21	18	39
Florida	41	292	333
Georgia	60	165	225
Hawaii	3	13	16
Iowa	25	59	84
Idaho	—	11	11
Illinois	133	300	433
Indiana	34	111	145
Kansas	22	69	91
Kentucky	44	58	102
Louisiana	91	64	155
Massachusetts	52	142	194
Maryland	23	58	81
Maine	3	40	43
Michigan	55	187	242
Minnesota	21	104	125
Missouri	41	138	179
Mississippi	20	51	71
Montana	3	7	10
North Carolina	79	114	193
North Dakota	4	3	7
Nebraska	8	19	27
New Hampshire	6	10	16
New Jersey	206	391	597
New Mexico	3	14	17
Nevada	1	11	12
New York	104	456	560
Ohio	140	263	403
Oklahoma	19	43	62
Oregon	20	75	95
Pennsylvania	119	210	329
Puerto Rico	15	61	76
Rhode Island	15	49	64
South Carolina	66	56	122
South Dakota	2	6	8
Tennessee	48	120	168
Texas	212	460	672
Utah	6	42	48
Virginia	32	79	111
Virgin Islands	2	3	5
Vermont	1	9	10
Washington	31	79	110
Washington, DC	—	12	12
Wisconsin	31	92	123
West Virginia	30	14	44
Wyoming	6	8	14
Total	2,168	5,583	7,751

On the basis of this analysis, we estimate that the CWC will affect between 3,000 and 8,000 companies. We note that on July 11, 1994, ACDA provided a written response to Senator DeConcini making cost projections for the treaty's impact upon 6,300 inspectable sites.

Are businesses aware that they will be subject to new regulations under the CWC?

Most of the companies identified by ACDA are unaware that they will be affected by the CWC. Though ACDA attempted to notify many of these companies through industry survey questionnaires and by holding informational seminars, ACDA's industry database reveals that fewer than 3,800 facilities responded in any way (either in the affirmative or negative) to ACDA's questionnaires. Similarly, when ACDA invited 2,400 companies to an informational seminar in 1994, they received feedback from only 110 businesses. In total, more than two-thirds of the companies that will be affected by the CWC are unaware of the treaty's import.

We find this a cause for concern. First, it suggests that the full range of industry views on the treaty have not been heard. Second, because the Federal Government in the past has found notifying small chemical companies of changes in regulations to be problematic (since most do not even subscribe to the Federal Register), many of these companies face the danger of substantial fines if they do not comply with CWC-mandated regulations—regardless of whether or not they are aware of them. The majority staff of the Committee has found that small firms, in particular, and their respective trade associations (where applicable) have not fully assessed the implications of the CWC. Dr. Will Carpenter, a Chemical Manufacturers Association representative, admitted as much in the book Ratifying the Chemical Weapons Convention:

> The leaders of the chemical industry, through the board of directors of the CMA, have always emphasized support of the convention. There are, however, another 60 to 80 trade associations whose members will also be regulated by the National Authority. People in both government and industry are now discovering how widespread the chemical industry really is. Automotive, pharmaceutical, paint and varnish, electronics, textiles, food processing, soap and detergent companies—all will be participants. An overwhelming number of these companies are not aware of the implications of the Chemical Weapons Convention despite a continuing effort by ACDA, the CMA, and other organizations to get the word out.

As has been noted, identification of companies subject to the CWC's data declaration and inspection regime is hampered by the fact that businesses are currently under no legal obligation to report the sorts of activities covered by the treaty. Additionally, some companies are waiting to learn about their new obligations until the Committee undertakes consideration of the CWC's implementing legislation. Finally, while the chemical and pharmaceutical industries have been appraised of the CWC's implications by their trade organizations, the CMA and Pharma are but 2 of 23 trade associations identified by the Congressional Office of Technology Assessment in 1993 as representing companies that will be affected by the CWC.

Indeed, because CMA represents less than 40 percent of the facilities deemed by ACDA as likely to be affected by the CWC, it would be erroneous to assume that the remainder are aware of the

potential regulatory burden posed by the Convention. In fact, only 668 facilities on ACDA's CWC Industry Database recognize that they might have new regulatory obligations under the CWC, indicating that even CMA-owned facilities have not responded to ACDA's industry survey questionnaire.

Significantly, we have found that some CMA-member companies do not agree whatsoever with the position their trade association has taken in support of the Chemical Weapons Convention. The Chief Executive Officer of the Dixie Chemical Company, Inc.—a CMA member—stated in a letter on September 3, 1996:

> We greatly appreciate the opportunity to comment on the upcoming ratification of the Chemical Weapons Convention (CWC). While the intent of the CWC is of the highest merit, the regulations appear to be very onerous requiring increased reporting and record keeping, foreign inspections of our facilities, and a significant challenge to our ability to maintain Confidential Business Information (CBI).
>
> Below are our responses to the questions asked in your letter of 8/9/96:
>
> 1. We are familiar with the CWC and what our responsibilities would be under this treaty.
>
> 2. We would incur a significant increase in data reporting under the CWC. We do not produce, possess, or use any schedule 1, 2, or 3 chemicals. However, we produce many Discreet Organic Chemicals (DOC). The CWC would apply to about 75% of our DOC production.
>
> 3. I'm certain we could not comply with the CWC under our current budget. The CWC would probably require an increase in headcount at our plant.
>
> 4. We are not prepared to have a foreign inspection team in our plant. I doubt that CBI could be safeguarded during such an inspection.
>
> One of the major problems with the CWC regulations is that the DOC category is much too broad. As written, nearly all petrochemicals and organic chemicals would be pulled into the system. The chemicals listed in Schedules 1, 2, and 3 are the chemicals that should be of concern.
>
> It would be of little benefit for the U.S. to rigorously participate in the CWC, if all the Nations of the world don't also participate.
>
> Thank you again for allowing us this opportunity to comment on a treaty ratification that could impact us so greatly.

On August 30, 1996, the President and CEO of another CMA company, Sterling Chemicals, stated:

> We are very concerned about control and cooperation of other countries (Mexico, Columbia, North Korea, Iran, Iraq, Jordan, Libya, Croatia, etc.). Since they probably will not cooperate, how does this treaty assure a "worldwide ban?'
>
> * * * We are familiar with the Chemical Weapons Convention and we understand our responsibilities (and liabilities) should this treaty become U.S. law.

> * * * We cannot comply within our current annual budget and personnel constraints. Our best estimates is that this treaty will cost Sterling a minimum of $100,000 per year and should an inspection occur at least another $200,000–$300,000 will possibly be required.

The Congressional Office of Technology Assessment pointed out in 1993 that the Chemical Manufacturers Association "represents only a portion of the U.S. chemical industry." In light of the fact that the Chairman of the Board of Directors of the CMA wrote to us on August 29, 1996, claiming "The chemical industry has long supported the CWC," we were concerned to discover that these companies, who are CMA members, are opposed to the treaty.

In the spring of 1996, the Committee contacted 14 specialized trade associations and received their membership lists. These lists were compared with ACDA's CWC Industry Database. All 14 associations have non-CMA members who will be subject to the new regulatory burdens and international inspection regime of the CWC. The following list of associations is provided to highlight the wide range of industrial activities that will be regulated under the treaty.

Name of association

American Coke and Coal Chemical Institute.
American Crop Protection Association.
American Wood Preservers Institute.
Chlorine Institute.
Color Pigments Manufacturers Association, Inc.
Compressed Gas Association.
Cosmetic, Toiletry and Fragrance Association.
Drug Chemical & Allied Trades Association.
National Paint & Coatings Association.
Pharmaceutical Research and Manufacturers of America.
Powder Coatings Institute.
Roof Coatings Manufacturers Association.
Society of the Plastics Industry, Inc.
Synthetic Organic Chemical Manufacturers Association.

Types of companies affected

Surprisingly, while one would expect the Chemical Weapons Convention to affect predominantly the chemical industry, ACDA's May 14, 1996, list contained over a thousand seemingly unlikely companies that would be subject to the new regulatory burdens of this arms control treaty. We were astounded to discover that the following companies are likely candidates for multinational regulation under the CWC:

> Kelly-Moore Paint Co.; D & L Paint Co.; Glidden Co.; Sherwin-Williams Co.; Bell Flavors and Fragrances, Inc.; Safeway Stores, Inc.; Winn-Dixie Stores, Inc.; Quaker Oats Co.; Nutrasweet Co.; Kraft Foods Ingredients; Maxwell House Coffee Co.; Gillette Co.; Eagle-Picher Industries; Pfizer, Inc.; Florida Distillers Co.; Jim Beam Brands, Co.; Strohs Brewery Co.; Virgin Islands Rum Industries; ADM Corn Processing Division; Archer Daniels Midland Co.; Browning Seed Inc.; Lever Brothers

Co.; Kaiser Aluminum; Dial Corp.; Colgate-Palmolive Co.; Hewitt Soap Co.; Armco Steel Co.; Xerox Corp.; Crown Wire & Cable; Salem Oil & Grease Co.; Castrol, Inc.; General Motors Corp.; Goodyear Tire & Rubber Co.; Missouri Portland Cement Co.; Bridgestone/Firestone, Inc.; Michelin Tire Corp.; Citgo Petroleum Corp.; Dye Specialties, Inc.; Simpson Timber Co.; Raytheon Co.; Lockheed-Martin Corp.; Bell-Textron, Inc.; Distrib U Toys, Inc.; Huish Detergents, Inc.; and Trojan Corp.

In reviewing ACDA's information, it became clear to us that the CWC will affect companies engaged in coke, coal, and steel production; mining; crop protection; fertilizers; paper production; wood preservation; chlorine manufacturing; color pigments, paint, ink and dyestuff production; specialty coatings; powder and roof coatings; plating and packaging; compressed gas; cosmetics, toiletries, and fragrances; drug chemicals manufacturing; pharmaceuticals; plastics; textiles; custom chemicals; food, wine, and beer processing; and electronics, among others.

Thousands of companies will be required, every year, to fill out government forms and host routine international inspections. They also must be prepared to receive on short-notice intrusive, challenge inspections by the Organization for the Prohibition of Chemical Weapons (OPCW), which will be established in The Hague, Netherlands. We are concerned that: (1) compliance costs associated with the CWC may prove burdensome to many industries, and are likely to be far higher than U.S. government officials currently assume; (2) that on-site inspections and data declarations potentially may be used to compromise trade secrets and proprietary information, which are vital to the U.S. chemical, pharmaceutical, and biotechnology industries' competitive edge; and (3) that limitations on availability and production of Schedule 1 chemicals may adversely affect some advanced biotechnology and pharmaceutical firms.

In fact, Will Carpenter, a representative for the Chemical Manufacturers Association testified before the Committee on June 9, 1994, that "there will be costs associated with the industry's compliance with the CWC. There will be reporting requirements, inspection of our facilities, new domestic and international regulations and the risk of losing proprietary information." During the same hearing, Dr. Carpenter also stated that "the CWC will have a negative impact on the U.S. chemical industry."

A number of businesses and consumer groups do not support ratification of the CWC for these reasons. Significantly, the Vice President for Federal Governmental Relations of the National Federation of Independent Business (NFIB), Dan Danner, wrote to both Senator Helms and Senator Lott on September 9, 1996, stating:

> On behalf of the more than 600,000 members of the National Federation of Independent Business (NFIB), I want to express serious concern regarding the regulatory requirements and burdens that would be placed on small businesses who "produce, process, consume, export or import" certain regulated chemicals with ratification of the Chemical Weapons Convention.

> * * * The CWC reverses the trend of reducing the growing regulatory burden on small business. According to the Congressional Office of Technology [Assessment] inspections of businesses required under the CWC will cost small business $10,000–$20,000. The typical small business owner takes home only $40,000 per year. The Department of Commerce has estimated that a business will spend from 2.5–9 hours on paperwork for each chemical used depending on its classification.
>
> There is a great deal of disagreement on the number of businesses which would be affected by the CWC. Numbers have ranged from 3,000 to 10,000. The regulatory burden of the CWC will hit small business harder than big business. A 1995 Small Business Administration study stated that while small business employs 53 percent of the workforce, they bear 67 percent of business' total regulatory expenses. Even if the number of small businesses in the initial list of affected companies is limited to a specific list, the fact that additional businesses might be regulated by the CWC without approval by the U.S. Congress will make small business powerless to have any input as it does under the U.S. regulatory system. For the first time, small businesses would be subject to a foreign entity inspecting their business.
>
> The CWC will continue to bury small businesses in paperwork and regulations. Therefore, NFIB urges your serious consideration of the effect of this Treaty on the small businesses in this country.

Other groups which have written the United States Senate to oppose the CWC include the Small Business Survival Committee, the Competitive Enterprise Institute, Americans for Tax Reform, The Eagle Forum, Coalitions for America, The Center for Security Policy, the National Center for Public Policy Research, 60 Plus, and Frontiers of Freedom. The chief economist for the Small Business Survival Committee, Raymond Keating, published an article in the Washington Times on July 31, 1996, which found that:

> Of course, smaller businesses will be hit hardest by these increased regulatory costs. Interestingly, the Chemical Manufacturers Association (CMA) supports ratification of the CWC and told the Senate Foreign Relations Committee that the new regulations would not be a burden. But the CMA is a group of generally large chemical manufacturers, and reportedly more than 60 percent of the facilities likely affected by the CWC are not CMA members.
>
> Large companies possess far greater resources and have accrued significant experience in dealing with regulators of all kinds. In fact, new regulatory burdens can perversely give large firms a competitive edge over smaller companies due to these resource and experience factors. As economist Thomas Hopkins has shown, the per-employee cost of federal regulation runs almost 50 percent higher for firms with fewer than 500 employees versus companies with more than 500 employees.

As a case in point, the President of Lomac, Inc. (a company with 150–200 employees) wrote Senator Abraham on August 21, 1996:

> This letter is in response to your recent [staff] request for information regarding the impact of the Chemical Weapons Convention (CWC) on businesses such as ours. It is not possible to estimate the amount of time that it will take to fill out the various CWC forms, but I can assure you that the total time will far exceed the 2–10 hour estimate found in Section 1.A. [of the Draft Department of Commerce Regulations]. The instructions alone will require a substantial commitment of time. After the data is gathered, it must be checked thoroughly to assure accuracy, because an honest mistake can (and most assuredly will in some cases) lead to a $50,000 fine. Even if, however, we estimate a 20-hour commitment per form, where can we find the 20 hours? Our staff is already employed full-time filling out a host of forms and applications for the Michigan Department of Environmental Quality, the U.S. EPA, and other government agencies. I have enclosed, for your information, copies of the reports that we are required to file annually. As you can see, this is quite a bit of paperwork—and we are a relatively small (150–200 employees) company.
>
> * * * I truly believe that this CWC will cost American jobs without any benefit. The United States can be trusted to refrain from making chemical weapons, but I cannot believe that certain other countries will abide by the treaty. Because of the adverse impact on Michigan's chemical industry (with little or no off-setting benefit) I urge you to vote against ratification of the treaty.

Scores of other companies have also written to object to ratification of the CWC unless it brings with it a commensurate national security benefit. ISK Biosciences Corporation, an agricultural chemical company, wrote the Senate on September 5, 1996, stating:

> In general, we believe that banning chemical weapons is a laudable goal. Since those countries most likely to instigate the use of chemical weapons are not among the signatories of the CWC, it would seem that this convention creates a lot of paper and does very little to gain the goal of eliminating chemical weapons.

CWC reporting requirements

Many U.S. companies already must provide extensive reports to the Environmental Protection Agency, the Occupational Safety and Health Administration, the International Trade Commission, the Bureau of the Census, and a host of various State and local agencies. In a February 26, 1992 response to an OTA questionnaire, the Chemical Manufacturer's Association indicated that compliance with existing regulations cost the industry approximately $4.9 billion in 1992. According to the OTA, one major chemical manufacturer employs 1,700 of its 50,000 personnel just for the purposes of satisfying Federal and State requirements for environmental and regulatory data.

Diamond Shamrock indicated in an August 26, 1996 letter opposing the CWC that:

> * * * our costs have increased by an estimated $1 million per year over the last couple of years just to meet new regulatory paperwork demands. We are incurring these costs, but should assume that our customers are paying for these in the long run.
>
> * * * awareness is often lacking when we approve seemingly useful or innocuous regulatory or legislative initiatives. On a simplistic basis, everything sounds great in these programs, but when you add up all the costs, the impact on our economy is enormous. The negative implications for our domestic growth rate, and on job and wage growth are often ignored in the analysis.

CITGO Petroleum Corporation echoed these concerns on August 29, 1996, in a letter to Senator James Inhofe:

> We realize that the petroleum industry is not the specific target of this treaty. Nevertheless it will be affected because of the extensive list of chemicals covered by the treaty. While the time and effort to comply with the CWC proposed rule will be minor in comparison to the tremendous number of other regulations affecting our industry (120 federal environmental regulations for refining alone), it will unnecessarily add to the company's regulatory burden.

Information required by the CWC verification regime differs quantitatively and qualitatively from that already collected for other regulatory purposes. As a result, the United States will be required to impose new regulations on businesses to force them to comply with the treaty.

These regulations will differ from existing law in several ways. First, current environmental regulations do not cover all of the chemicals relevant to the CWC. Second, of those that are covered, the production thresholds triggering reporting requirements are set much higher, and some regulations require only prospective (rather than retroactive) reporting. Third, several environmental regulations apply solely to chemical producers, and not to companies that process or consume chemicals, such as the pharmaceutical industry. Finally, the reporting deadlines for the CWC are shorter, and will require more frequent updates than estimates currently required by the EPA.

As a consequence of these differences with existing laws, if the CWC is ratified many companies will be faced with the challenge of filing detailed annual declarations for the first time. Additionally, because the CWC requires a company notify the federal government of any change in declared activities 5 days before it occurs—and because many small firms will find it difficult, if not impossible, to predict all of their activities over the coming year—CWC regulations may prove a frequent burden.

As CITGO indicated, for large firms these new regulations may add only incrementally to the cost of conducting business in the United States. Companies such as those represented by the Chemical Manufacturers Association will simply manage the new paper-

work burden posed by the CWC by augmenting existing reporting systems. However, the CWC will be proportionately far more burdensome for small firms, and for companies that are not currently required to report similar data to federal, state, and local governments.

These new costs will be particularly difficult to absorb for small chemical firms which use batch production techniques, or which "custom" synthesize complex intermediates or other "made-to-order" products. According to the February 8, 1993, issue of Chemical Engineering News, these companies generally have fewer than 100 employees and have annual sales of less than $40 million each. These companies compete with large chemical manufacturers who also engage in some batch processing, and can ill afford the cost of new regulations. Notably, a 1993 Congressional Office of Technology Assessment concludes that "small to medium-sized batch producers may have more difficulty in complying with CWC reporting requirements because they have smaller staffs and change their production processes more frequently."

The President of one such firm, Moon Chemical Products, Inc., stated the problem in an August 20, 1996 letter:

> The reporting requirements in this treaty are a burden for any company not involved in weapons * * * We are manufacturers of industrial, institutional, and agricultural products. Several years ago we had to hire an outside consultant to make sure we meet government regulations for our business, our employees, and our customers. Please do not add another burden to our industry.

Small businesses in other economic sectors are faced with the same problem. The President of South Hampton Refining Company stated in a letter on August 19, 1996, that:

> No, we could not comply with this treaty within our current annual budget and personnel. The reason we are in business as a small refiner is that we change the operation quickly and often to meet the market. The reporting alone would require additional personnel, much less the cost of potential inspection, interpreting the regulations, etc. We currently have 10% of our work force assigned to nothing but regulatory functions, mostly environmental. At some point these non-profit producing efforts will outweigh the value of keeping the business operating.
>
> * * * There are months where the cost of compliance with this treaty would completely eliminate the profit for the month. You can explain to our employees how this is more important to the nation than them getting a paycheck, or having health coverage, or having a retirement plan, or having a profit sharing check.

We found this same sentiment reflected time and again in the responses of small companies to questions about the CWC. Another refining company—Valero Refining Company—noted on August 20, 1996, that "Valero is an independent refinery with limited staff resources which are already overwhelmed with regulatory compliance record keeping and reporting."

A small plating company in Minnesota wrote to Senator Grams stating that the federal government has "small business buried with regulations with all this paperwork that has to be submitted to different agencies * * * This treaty will not be worth the paper it is written on."

The paperwork

The Bureau of Export Administration of the Department of Commerce has prepared a handbook and declaration forms for companies subject to the CWC's regulations. The following charts summarize the number of forms currently contemplated:

Schedule 1: Declarations

Certification Form
Form 1–1, Schedule 1 Facility or Trading Company Identification
Form 1–2, Annual Report of Schedule 1 Chemical Activities at the Facility During the Previous Year
Form 1–2A, Annual Report of Schedule 1, 2, and 3 Precursor Chemical(s) Used to Produce a Schedule 1 Chemical
Form 1–2B, Annual Report of Purposes for Which a Schedule 1 Chemical Was Consumed
Form 1–2C, Annual Report on the Receipt and/or Shipment of the Schedule 1 Chemical From or To Other Schedule 1 Facilities in the United States
Form 1–3, Annual Report of the Schedule 1 Chemicals Imported or Exported to Other States Parties
Form 1–4, Declaration on Schedule 1 Anticipated Activities
Form A, Attachments for Declared Plant Sites
Form B, Optional Comments

Schedule 2: Declarations

Certification Form
Form 2–1, Schedule 2 Plant Site or Trading Company Identification
Form 2–2, Declaration of Schedule 2 Plants at Plant Site
Form 2–3, Declaration of Schedule 2 Chemicals at Plant Site
Form 2–3A, Declaration of Schedule 2 Chemicals Sold or Transferred Off the Plant Site in the United States
Form 2–3B, Report of Detailed Data on Exports and Imports of Schedule 2 Chemicals
Form 2–3C, Declaration of Anticipated Activities or Amended Plans for Schedule 2 Chemicals
Form 2–4, Initial Declaration of Schedule 2 Chemicals Produced Since 1 January 1946 for Chemical Weapons Purposes
Form A, Attachments for Declared Plant Sites
Form B, Optional Comments

Schedule 3: Declarations

Certification Form
Form 3–1, Schedule 3 Plant Site or Trading Company Identification
Form 3–2, Declaration of Schedule 3 Plants at Plant Site

Form 3–3, Declaration of Schedule 3 Chemicals at the Plant Site
Form 3–4, Initial Declaration of Schedule 3 Chemicals Produced Since 1 January 1946 for Chemical Weapons Purposes
Form A, Attachments for Declared Plant Sites
Form B, Optional Comments

Discrete organic chemicals: Declarations

Certification Form
Form DOC, Unscheduled Discrete Organic Chemical (DOC) Plant Site Identification (2 pages)
Form A, Attachments for Declared Plant Sites
Form B, Optional Comments

Needless to say, we are very concerned that the Administration's approach to declarations is complicated and far too burdensome for industry.

Who must submit paperwork?

Declarations to the federal government will be mandatory for companies that produce, utilize in any way, or import or export chemicals listed in Schedules 1, 2 and 3 in quantities above the thresholds specified in the CWC. Furthermore, producers of discrete organic chemicals in quantities more than 200 metric tons will also be required to declare their facilities. Companies must also declare facilities if their products contain phosphorus, sulphur or fluorine (PSF), and are produced in quantities greater than 30 metric tons. Only facilities that produce pure hydrocarbons or explosives are excluded from DOC and PSF declarations.

The Verification Annex of the CWC empowers the OPCW's Technical Secretariat to determine a company's compliance by examination of the data supplied and routine inspections of the companies facilities.

Schedule 1 requirements

The Schedule 1 regime is the most rigorous of the CWC's sets of verification provisions. If the United States ratifies the treaty, it will forgo the ability to produce or otherwise acquire in one year—or possess at any given time—more than 1 ton of all Schedule 1 chemicals combined, notwithstanding the fact that Schedule 1 contains chemicals essential to research, medical, pharmaceutical, and chemical defense programs. Moreover, Schedule 1 also includes biological toxins, such as ricin. Not only does the inclusion of toxins under the Schedule 1 regime directly affect pharmaceutical and biotechnology industries, but we are concerned that this impact will become more pronounced if the CWC is expanded to cover various biological pathogens failing efforts to create a verification regime for the BWC.

Production of Schedule 1 chemicals is limited to minute quantities. Each country may possess 1 small-scale facility (no more than an aggregate 500-liter capacity) which may not be configured for continuous operation, and which may not have any reaction vessels with a volume greater than 100 liters. All other production of Schedule 1 chemicals is limited to no more than 10 kg per year,

and is still subject to the 1 ton limit on production, as well as to the rigorous declaration and inspection provisions of the CWC.

For each and every Schedule 1 chemical "produced, acquired, consumed, or stored" a company must provide a detailed annual data declaration identifying the chemical name, structural formula, Chemical Abstracts Service registry number (if assigned), the methods employed, quantity produced, the name and quantity of precursors listed in Schedules 1, 2, and 3 used for production of the chemical, the quantity consumed and purposes of consumption, shipping data, storage data, and technical description of the facility, including detailed inventories of equipment and diagrams.

Schedule 2 requirements

The list of Schedule 2 chemicals appears in the CWC in the Annex on Chemicals. The required declarations are described in Part VII of the Verification Annex. Schedule 2 requirements include aggregate national data on quantities produced, processed, consumed, imported, and exported of each Schedule 2 chemical including full specification of imports and exports for each chemical involved. Declarations are required for all plant sites involved in production, processing or consumption above the following thresholds:

1 kg of a "*" chemical in 2A;
100 kg of other chemicals in 2A; and
1 ton of a chemical in 2B.

A considerable amount of detailed information is also required on the actual plant site where a Schedule 2 chemical is produced above the threshold. The initial declaration for each plant site has to cover the three previous calendar years.

In sum, the following declarations are required for Schedule 2:

(1) initial Declarations on aggregate National Data and plant sites 30 days after entry into force;

(2) annual Declarations on past or completed activities 90 days after year end for aggregate national data and plant sites;

(3) annual Declarations for anticipated activities 60 days before the annual production cycle begins at plant sites; and

(4) additional production over that declared under (3) above must be declared 5 days before the production cycle begins.

All declarations for Schedule 2 chemicals must include: (1) a primary declaration identification, (2) one declaration per chemical, and (3) specifications on the import and export of the Schedule 2 chemical by country. The OPCW in turn has interpreted this to mean that national authorities will need to require from producers, consumers, and processors of Schedule 2 chemicals data that will contain significant confidential business information. We therefore expect the basic set of data will include the item number on Schedule 2, chemical name, CAS registry number, common/trade name and structural formula, quantity produced (including information on percentage concentration regarding raw material and product), quantity processed (including information on percentage concentration regarding raw material and product) and quantity consumed, imported, exported, retained stored, sold or transferred, information on import/export (supplier and recipient countries), information on quantities sold or transferred (including information on des-

tination and final product for which the chemical has been used), and information on instances where the chemical produced is used for other purposes than processing, consumption and shipment to another destination.

Declarations on Schedule 2 plant sites must include a primary declaration identification, Schedule 2 plant site information, the number of Schedule 2 plants at the plant site, the production capacity per chemical, information on all Schedule 2 chemicals at each plant site, information on Schedule 2 chemicals sold or transferred off the plant site, anticipated time periods for the production, processing or consumption of Schedule 2 chemicals, a one-time declaration of Schedule 2 chemicals produced at the plant sites since January 1, 1946 for chemical weapons purposes, production periods for Schedule 2 chemicals produced for chemical weapons purposes since January 1, 1946, and locations to which each Schedule 2 chemical produced for chemical weapons purposes was delivered.

It is thus expected that the basic set of data Schedule 2 plant sites will include: (1) logistics information such as the name and address of the facility (including building number or address, structure and postal code) and name of both the owner and operator of the facility; and (2) activity information such as the main activities of the facility, which scheduled chemicals are produced, production capacity, and information on the type of plant (dedicated or multipurpose).

There are two major unresolved issues with respect to Schedule 2. The term aggregate national data and the reporting requirements for mixtures containing a "low concentration" of a Schedule 2 chemical are not defined. In the former instance, some countries assumed that the aggregate would cover all production, including that from sites below the declaration threshold. Others insist on the aggregation of data from declared sites only, adding all declared data on production, processing and consumption above the threshold together with the actual import and export quantities. The matter has been further complicated by the Technical Secretariat's proposed "Rounding rules" whereby, for example, quantities less than 500 kg would be rounded down to 0 tons (e.g., production, processing or consumption of 1.5 tons would be declared as 1.0 ton, while 1.6 tons would be rounded up to 2 tons).

Secondly, the CWC states that declarations "are not generally required for mixtures containing a low concentration of a Schedule 2 chemical" and goes on to state that declarations are only required in accordance with "guidelines" that relate to the ease of recovery of the Schedule 2 chemical and its total weight. The guidelines have not yet been developed by the Preparatory Commission or approved by the conference of States Parties, pursuant to Article VIII. Nor has the Expert Group come to agreement on total weight and a percentage below which a declaration would not be required (provided that the Schedule 2 chemical was not isolated), or on an elaboration of criteria related to ease of recovery together with quantitative thresholds.

As it stands, the CWC requires declarations on any chemical produced as a byproduct of an industrial process whether it has some commercial value or not. In the case of Schedule 2 chemicals, such

byproducts will be produced by processing and consumption as well. Furthermore, finished products, either imported or exported, containing even a small amount of a scheduled chemical formed part of a formulated material may need to be declared.

Schedule 3 requirements

The list of Schedule 3 chemicals also appears in the CWC in the Annex on Chemicals (as described in Article VI). Schedule 3 requirements include aggregate national data and plant sites, but only specifies production, imports and exports, with no requirements related to processing or consumption. Declarations are needed for plant sites producing more than 30 tons of a Schedule 3 chemical. The production is to be expressed in ranges:

30 to 200 tons;
200 to 1,000 tons;
1,000 to 10,000 tons;
10,000 to 100,000 tons; and
above 100,000 tons.

The following declarations are required for Schedule 3 chemicals:

(1) initial declarations on aggregate national data and on plant sites 30 days after entry into force;

(2) annual declarations on past or completed activities 90 days after year end both for aggregate national data and plant sites;

(3) annual declarations for anticipated activities at plant sites 60 days before the year begins; and

(4) any proposed change after the anticipatory declarations to be made 5 days before additional production begins.

All Schedule 3 chemical data declarations must include a primary declaration identification, one declaration per chemical, and specifications on the import and export of the Schedule 3 chemical by country. For these declarations the following data will be essential: item number on Schedule 3, chemical name, CAS registry number, common/trade name and structural formula, quantity produced (including information on percentage concentration regarding raw material and product), information on import/export, information on purpose of production, and information on the production range for the given chemical (i.e., less than 30 tons, 30–200 tons, 200–1,000 tons, 1,000–10,000 tons, 10,000–100,000 tons and above 100,000 tons).

Information on declared Schedule 3 plant sites must include the primary declaration identification, Schedule 3 plant site information, information on all Schedule 3 plants at the plant site, data on all Schedule 3 chemicals at the plant site, a one-time declaration of any Schedule 3 chemicals produced at the plant sites since January 1, 1946 for chemical weapons purposes, production periods for Schedule 3 chemicals produced for chemical weapons purposes since January 1, 1946, and a list of locations to which each Schedule 3 chemical produced for chemical weapons purposes was delivered. The basic set of data would thus consist of the name and address of the facility (including building number or address, structure and postal code) and name of both the owner and operator of the facility, main activities of the facility, which scheduled chemi-

cals are produced there and their production capacity, and information on the type of plant (dedicated or multipurpose).

The same two problems exist for Schedule 3 chemicals as for Schedule 2 chemicals: questions over "aggregate national data" and "low concentrations" as terms. Again "guidelines" have yet to be developed as to when declarations are required for Schedule 3 chemicals which are part of mixtures and an understanding of what aggregate national data means in the CWC.

Other chemical production facilities

Since there are many chemicals that are not on the schedules but which could play a role in CW development, the CWC casts an even broader net to capture facilities capable of being used or converted into facilities that could be used for the production of scheduled chemicals or other chemicals that could be used as chemical weapons or precursors. The CWC requires declarations on "other" chemical production facilities engaged in the production of "unscheduled discrete organic chemicals" (DOC's), a subclass of which is "unscheduled discrete organic chemicals containing the elements Phosphorus, Sulfur or Fluorine" (PSF). Declarations are required for plants that synthesize: 200 tons or more of DOC's; and 30 tons or more of PSF chemicals.

Declarations of plant sites are to occur 30 days after entry into force, with an annual update of this list 90 days after the calendar year end. The list of plant sites must also include an aggregate amount of the production of each DOC given in the ranges: under 1,000 tons; 1,000 to 10,000 tons; and above 10,000 tons.

The production of PSF chemicals in PSF plants is to be expressed in the aggregate ranges: under 200 tons; 200 to 1,000 tons; 1,000 to 10,000 tons; and above 10,000 tons.

For DOC's, including PSF chemicals, the following information would likely be needed in an industrial declaration: data on chemical group, chemical name, CAS registry number and common/trade name, and information on the production range for the plant site. For a facility producing DOC's, including PSF's, logistics information such as the name and address of the facility where the chemical is handled or stored (including building and structure specification) and name of both the owner and operator of the facility and activity information (e.g., main activities of the facility and identification of each unit or plant at each plant site that has produced a DOC, including PSF plants) would be necessary.

We find inconsistency in the CWC's treatment of DOC's and PSF chemicals in comparison with Scheduled chemicals. Elsewhere the CWC defines production as "its formation through chemical reaction." Why is the production of DOC's "by synthesis" also covered?

Second, the DOC category is far too expansive. It should be limited, and synthesis as a method of production should be excluded. As it stands, this provision of the CWC increases significantly declaration and inspections costs, and will require a far broader number of U.S. companies to assume new regulatory burdens under the CWC than otherwise would be the case.

CWC inspection requirements

Any company that provides declarations to the federal government should prepare for inspections. Once a State Party provides its declarations to the OPCW, these will be verified by on-site inspections (routine and challenge inspections) by the Technical Secretariat of the OPCW. Both declarations and inspections are "triggered" by activity beyond certain thresholds:

	Declaration	Inspection
Schedule 2A*	1 kilogram	10 kilograms.
Schedule 2A	100 kilograms	1 ton.
Schedule 2B	1 ton	10 tons.
Schedule 3	30 tons	200 tons.
Unscheduled DOC's	200 tons	200 tons.
PSF's	30 tons	200 tons.

Facilities that produce Schedule 1 chemicals can be inspected at anytime, and there is no limit on the actual number of inspections per annum. Individual Schedule 2 or 3 plants can receive a maximum of two inspections per year. Plants that produce "other discrete organic chemicals" will not be inspected during the first three years, but will be liable for inspection thereafter. The total annual number of inspections for all Schedule 3 plants and these other facilities will be either 20, or 3 + 5 percent of the total number of the plant sites declared, whichever figure is smaller.

The CWC limits the time that inspectors from the OPCW may spend at an individual site unless the National Authority agrees to an extension. The time limit is 96 hours for Schedule 2 sites, and 24 hours for Schedule 3 facilities and other chemical production facilities. Due notice must be given for a routine inspection.

Schedule 2 facilities

During the first three years after entry into force, all commercial facilities that produce, process or consume Schedule 2 chemicals above the thresholds will undergo an initial inspection, during which negotiations will commence work on a Facility Agreement (FA). This will be negotiated between representatives of the OPCW and the federal government, with "assistance" from the plant management. If the FA is not agreed upon within 90 days, inspections will involve the "managed access" approach. The agreement must specify those parts of the site apart from the plant which are of concern to the Inspectorate and thus, may form part of the routine inspection pathway.

In general, access by the OPCW inspection team to other parts of the plant site will be granted in accordance with the negotiated Facility Agreement. The National Authority will have a minimum of 48-hours notice of any given inspections and the inspection cannot last more than 96 hours.

Schedule 3 facilities

Schedule 3 facilities are also subject to routine inspections after entry into force. There is no requirement for a formal initial inspection nor for a Facility Agreement, although one can be requested by a given firm. Inspections will focus on the declared Schedule 3 plant(s) but may request access to other parts of the plant site on

the basis of negotiation. Access to records, sampling and on-site analysis will also be the subject of negotiation. The State Party will receive a minimum notice of five days before the inspection takes place and the inspection cannot last more than 24 hours without further agreement of the national authority.

Other chemical production facilities

The inspection regime for "other chemical production facilities" will not begin until four years after entry into force. Facility agreements are optional. The State Party will receive a minimum of 120 hours advance notice of an inspection, and the duration of the inspection will not exceed 24 hours unless the federal government agrees to extend it.

Challenge inspections

Article IX of the CWC provides for short notice inspections at any site, declared or undeclared, and at government or privately owned facilities. We are concerned with the possibility that the on-site inspection provisions of the CWC will compromise the trade secrets of U.S. businesses. Businesses are concerned, too.

The U.S. chemical pharmaceutical, and biotechnology industries have long been heavily targeted for industrial espionage. Since the end of the cold war, the number of reported incidents has continued to increase annually, along with increases in the number of incidents involving foreign firms or governments. A nationwide survey regarding industrial espionage conducted in 1992 by the American Society for Industrial Security documents a 280 percent increase (over a 1985 survey) in the number of incidents involving the compromise of confidential business information, and a 360 percent increase in foreign involvement in these incidents. Eleven chemical companies responded anonymously to the survey, eight of whom reported a total of 21 known attempts to steal proprietary information—the most frequent targets being customer lists, pricing data, and manufacturing process information. Six of those incidents cost the companies a total of $86.25 million.

Dr. Will Carpenter, a former-Vice President for Technology at the Monsanto Agriculture Company and a Chemical Manufacturers Association representative, supplied the Committee with a copy of his remarks before the American Association for the Advancement of Science on January 16, 1989. In that statement, he noted:

> Those of use who manufacture chemicals that are only a step or two away from chemical weapons—and that means a large number of us in the CMA—have already accepted the reality that a good treaty means significant losses of information that we consider confidential.

Proprietary information is often the basis for a chemical company's competitive edge. As a practical matter, a wide variety of things may be considered proprietary or sensitive by a given company. Some examples of common types of confidential business information were compiled by the Office of Technology Assessment in 1993:

The formula of a new drug or specialty chemical

A synthetic route that requires the fewest steps or the cheapest raw materials

The form, source, composition, and purity of raw materials or solvents

A new catalyst that improves the selectivity, efficiency, or yield of a reaction

The precise order and timing with which chemicals are fed into a reactor

Subtle changes in pressure or temperature at key steps in a process

Isolation methods that give the highest yields consistent with good recycling of solvents and reagents

Expansion and marketing plans

Raw materials and suppliers

Manufacturing costs

Prices and sales figures

Names of technical personnel working on a particular project

Customer lists

The theft of any one of these items could result in a loss of revenue and investment that could damage a large company, and drive a small one out of business. Underscoring the importance attached to proprietary information is the fact that companies seldom patent their unique "tricks of the trade" in order to prevent Freedom of Information Act (FOIA) requests (to which patents are subject) from compromising business secrets. Because some trade secrets are not all that complex, the OTA found that "even visual inspection alone might reveal a unique process configuration that could be of great value to a competitor." Yet the CWC allows for far more than mere visual inspection during a challenge inspection.

CWC inspections will be conducted by international teams of inspectors including nationals from U.S. political and/or economic adversaries. During even a routine inspection a skilled chemical engineer equipped with knowledge of the target facility and list of specific questions to be answered could learn a great deal about the activities of a given business. According to the OTA, potential sources of proprietary information that might be compromised during an on-site inspection include:

manifests and container labels that disclose the nature/purity of the feedstock and the identity of the supplier

instrument panels revealing precise temperature and pressure settings for a production process

chemical analysis of residues taken from a valve or seal on the production line

visual inspection of piping configurations and instrumentation diagrams could allow an inspector to deduce flow and process parameters

audits of plant records

Lieutenant General (Ret.) James A. Williams, former Director of the Defense Intelligence Agency, wrote Senator Lott on September 9, 1996, urging that ratification of the CWC be delayed until the Senate had engaged in informed debate on the dangers of economic espionage. According to General Williams, who is currently a consultant to several large firms on competitive and counter-economic intelligence issues:

> * * * the opportunity for unfettered access to virtually every industrial facility in this country, not merely the pharmaceutical and chemical plants, would make most foreign intelligence organizations very happy, even gleeful. It is likely to cause the counterintelligence sections of the FBI and the Defense Investigative Service major problems for the foreseeable future. The inspection procedures which apply to ALL industries constitute unprecedented access to our manufacturing base, not just to those thought likely to be engaged in proscribed activities! My experience in protecting patents and intellectual property over the past ten years leads me to conclude that there is the potential for the loss of untold billions of dollars in trade secrets which can be used to gain competitive advantage, to shorten R&D cycles, and to steal U.S. market share. To allow invasion of private property without probable cause or a search warrant could undermine every industrial security standard established under government regulations or by private firms seeking to protect industrial processes or other proprietary information.

Many U.S. companies are extremely concerned with the CWC's inspection regime. The Detrex Corporation, for example, wrote to Senator Abraham on August 30, 1996, stating that:

> Although reverse engineering of a product (the process of determining the products' composition or molecular structure) may be possible, many companies enjoy a competitive advantage in a market due to the manufacturing process used. Process "trade secrets" may include items as simple as: the type of equipment used, manufacturing parameters, or even who supplies a particular raw material. Allowing inspectors full access to a company's manufacturing site and records could have a large impact on a company's ability to compete in domestic and international trade.

We are concerned, along with U.S. businesses, that even routine inspections under the CWC could erode a businesses competitive advantage. What is worse, the CWC's challenge inspection provisions allow inspectors wide latitude in interviewing employees and access to company documents, not to mention the right to take samples and ship them off-site to international laboratories for analysis. It is expected that laboratories conducting analysis of samples will be geographically dispersed among the ratifiers of the CWC. A number of countries with questionable chemical weapons nonproliferation credentials, such as China and Iran, have already indicated an interest in fielding laboratories.

In preparation for the CWC, the U.S. conducted seven National Trial Inspections at government and industrial facilities. Those trial inspections support concerns that even routine access by the OPCW to chemical facilities could result in the loss of trade and/or national security secrets—to say nothing of the access allowed under more intrusive challenge inspection provisions. During one National Trial Inspection, soil and water samples taken from the exterior of buildings at a chemical plant three weeks after a production run revealed the product of the operation and process de-

tails. Moreover, the CWC explicitly affords an inspection team the right to take samples on-site and, pursuant to Part II paragraph (E)(55) of the Verification Annex, the right to transfer, "if it deems necessary," samples for analysis off-site at international laboratories designated by the OPCW.

The CWC's sampling provisions pose a danger not only to trade secrets, but to government secrets as well. Dr. Kathleen Bailey, Senior Fellow at Lawrence Livermore National Laboratory, testified before the Committee on March 21, 1996, that:

> Experts in my laboratory recently conducted experiments to determine whether or not there would be a remainder inside of the equipment that is used for sample analysis on-site.
>
> They found out that, indeed, there is residue remaining. And if the equipment were taken off-site, off of the Lawrence Livermore Laboratory site, or off of the site of a biotechnology firm, for example, and further analysis were done on those residues, you would be able to get classified and/or proprietary information.

The U.S. Government published in the Conference on Disarmament an unclassified report of the third National Trial Inspection of the Monsanto Agricultural Company's Luling, Louisiana plant in August, 1991 by a mock inspection team comprised of U.S. experts. One of the most troubling findings of the inspection report was in the area of the protection of confidential business information (CBI). The report determined:

> The Monsanto representative who was on the inspection team to determine the extent of CBI he could obtain, determined there would be a loss of such information. He stated he was able to obtain enough information about the glyphosate intermediate process merely by equipment inspection to save a potential competitor considerable process development, time and dollars. He said a knowledgeable inspector could compromise Monsanto's proprietary business interests with no access to their records beyond the quantity of phosphorous trichloride consumed.

The conclusions of this report would seem to be particularly troubling for many chemical, pharmaceutical, and biotechnology companies. The Office of Technology Assessment (OTA) estimated in August, 1993, that the U.S. chemical industry loses approximately $3–$6 billion per year in counterfeited chemicals and chemical products. The development of a new pesticide takes an average of 10 years and costs $25 million. U.S. pharmaceutical firms take an average of 12 years and spend roughly $350 million in research and development of each new drug.

Information gleaned from inspections and data declarations literally could be worth millions of dollars to foreign competitors. However, the greatest threat is not to large, diversified chemical manufacturers, but to small companies concentrating on a single market or technological niche. A small company whose profitability (and economic survival) derives from a cost or quality advantage in one area will be particularly vulnerable to industrial espionage.

Theft of that one trade secret, which may not be all that complex, could drive the company out of business.

As a consequence, the CWC's threat to trade secrets concerns far more than the chemical, biotech, and pharmaceutical industries. In an August 7, 1996 letter to Senator Jon Kyl, a manufacturer of animal health-care products, Farnam Industries, stated:

> First, the short-notice challenge inspections that can be initiated by foreign states would be a burden physically and financially. We have confidential information concerning formulations and manufacturing procedures that we need to protect.

Similarly, Crafco, Inc., wrote to Senator Kyl on September 6, 1996:

> Our company does not maintain, use or propose to use any Schedule 1, 2, or 3 chemicals. However, we would like to express our reservations concerning unannounced inspections. The potential for abuse, specifically the theft of trade secrets both formulations and process oriented is significant. Unannounced inspections are also costly in terms of production disruption. A second concern would be that the apparent goals of this treaty are enforceable in the United States under already existing statutes. Industry sponsored terrorism in the form of chemical weapons manufacture is controllable without external intervention. Finally, without the assent of the states sponsoring terrorism this treaty really amounts to the good guys policing the good guys and picking up whatever they can in the process.

CITGO Petroleum wrote on August 29, 1996 that "CITGO believes that the requisite inspections associated with the Treaty will, no doubt, jeopardize confidential business information as well as disrupt normal business operations."

Another small laboratory in Minnesota commented that "We are also concerned about protecting trade secrets from international inspection teams. * * * We have seen information leaked through the FOI [Freedom of Information] process and do not believe that information obtained by international inspection teams would be as secure."

On August 15, 1996, the Gemini Company stated that it would not be prepared to receive a foreign inspection team:

> * * * hosting such an inspetion would be a serious hindrance to our business. It would be very difficult to safeguard confidential business information during such an inspection.
>
> We have serious reservations about the ability of more legislation and further regulation of U.S. industry to solve the chemical weapons problem. Further, since the countries of Libya, Iraq, Syria and North Korea refuse to sign this treaty, how will further reporting requirements, and inspection of businesses such as ours prohibit the development of chemical weapons?

On July 19, 1996, The Sundt Corporation noted that:

> Based upon the depth of inspection, e.g., interviews with corporate personnel, employees, vendors, subcontractors; review of drawings, purchase orders, subcontracts; inspection and review of internal and external correspondence; we feel that it could be difficult to safeguard confidential business information during this inspection. This has to do not only with our internal corporate information but we would be concerned about information that we have signed a confidentiality agreement with our partners and/or customers.

The Dial Corporation wrote to Senator Kyl on July 23, 1996 to inform him that: "We are not prepared to receive a foreign inspection team to our facilities, and we would be greatly concerned that such a visit might compromise our confidential business information."

Prepared or not, if the United States Senate ratifies the CWC, the burden of safeguarding proprietary information will fall squarely upon the shoulders of U.S. businesses. This, too, will entail significant cost to industry. Following the first U.S. National Trial Inspection at the Akzo Chemicals Plant in Gallipolis Ferry, West Virginia, Akzo reported a cost of $10,000 for its time spent in preparing for the trial inspection.

In practice, inspections will depend upon the size of the facility, the portion of the commercial site relevant to activities that might be of concern, and the extent to which the facility is engaged in highly proprietary or classified defense activities, such as the manufacture of materials for stealth aircraft. According to the Department of Defense, the cost to commercial and government facilities which meet these criteria for preparing for a challenge inspection is expected to range from $200,000 to $500,000. According to the OTA, inspection costs will be higher if a company must shut down production for safety reasons or to protect trade secrets, or if the company must reconfigure or relocate production or consumption of chemicals to protect trade secrets.

The disruption of production runs poses a serious, unestimable opportunity cost. Many businesses have expressed concern about their loss of revenue if they must suspend operations during an inspection. As McWhorter Technologies put it on September 5, 1996:

> * * * many of our operations run on a seven day, twenty-four hour schedule. A foreign inspection team could be quite disruptive particularly on the short notice indicated in this proposed treaty. In addition to the negative impact on operation such a visit could incur, reimbursement of costs for the inspection could be quite significant.

The total cost to U.S. economy from ratification of the CWC, as a consequence of indirect inspection costs, production interruptions, accounting costs, and the potential theft of trade secrets, could be enormous.

Impact upon advanced biotechnology and pharmaceutical firms

The CWC may seriously affect some "cutting-edge" pharmaceutical and biotechnology companies by denying access to chemicals needed to produce their medical treatments. A small but sig-

nificant cross-section of the biotechnology and pharmaceutical industries may find their ability to obtain to basic raw ingredients used to manufacture their products constrained. For example, one biotechnology firm in Massachusetts uses ricin—a Schedule 1 chemical—in its anti-cancer compounds. While the CWC permits the use of Schedule 1 chemicals under Part VI, paragraph (A)(2) of the Verification Annex, that use is subject to two subsequent provisions in paragraph (A) which: (1) limit the aggregate quantity of all Schedule 1 chemicals at any one time in the United States to 1 metric ton; and (2) limit production or other acquisition of Schedule 1 chemicals to one metric ton annually. Furthermore, the CWC limits manufacture of Schedule 1 chemicals in excess of 10 kg to one single, small scale facility in the United States. Each other facility is limited to production of no more than 10 kg per year of Schedule 1 chemicals.

Given the fact that this biotechnology firm alone expects to need between 50 and 80 kg per year, the possibility exists that the firm's medicinal needs will be placed in direct competition with the other demands placed upon the annual aggregate ton of Schedule 1 chemicals. Indeed, the very existence of the one-ton exception came at the insistence of the United States, which desired to retain some Schedule 1 chemicals for use in law enforcement activities. Moreover, the excepted ton likely also will be called upon to satisfy chemical defensive research and testing. Clearly the CWC establishes a trade-off between the ability of biotechnology and pharmaceutical industries to manufacture anti-cancer agents and other life-saving drugs and the ability of the U.S. to develop life-saving chemical warfare defenses. Even under the best circumstances, biotechnology firms using Schedule 1 chemicals will be forced to pursue multiple sources and to conduct duplicative testing and auditing of their multiple chemical supplies. This will entail costs that are significant for small firms whose competitive edge derives from a single product.

Significance of the CWC for trade in chemicals

In addition to concerns over the impact upon industry of CWC ratification, during hearings from private sector witnesses in March 1996, the committee also considered the significance of non-ratification of the CWC. In testimony before the committee on March 21, 1996, the President and Chief Executive Officer of the Chemical Manufacturers Association, Frederick Webber stated that:

> We are a fast, reliable, high-quality supplier to customers in every corner of the globe. But we could lose that distinction; we could lose it if the U.S. does not ratify the Chemical Weapons Convention.
>
> The Convention sharply restricts trade in chemicals with countries who are not parties to the treaty. If the Senate does not ratify, our customers will cut us off. They will drop us, and find other suppliers.
>
> * * * Our largest trading partners, who will be party to the Convention, what they are going to do is, they are going to apply trade restrictions to chemicals that originate here, or that are being shipped there.

In direct contrast, Dr. Kathleen Bailey stated:

> I would like to correct what I think are two mistakes in things that have been said before.
>
> The first one has to do with the idea that the United States, if it does not ratify the treaty, will create a situation which sharply restricts trade in chemicals. There are three schedules of chemicals listed in the Convention. Schedule one chemicals are essentially chemical weapons. They are very nasty chemicals; they are not traded by the United States anyway.
>
> Schedule two chemicals are terrible, but they were less terrible than schedule one, in terms of chemical weapons. But these chemicals are not traded very widely. This is the category of chemicals of which there is a trade restriction.
>
> Now, schedule three chemicals, the ones in which we have a lot of trade, is not restricted by the treaty. So statements made today that not ratifying the treaty would result in a restriction on trade is simply not true, because the trade we do in chemical trade is schedule three chemicals, and the treaty does not restrict that.

The assumption that the CWC will enter-into-force without the participation of the United States, which is expected by most countries to pay one-quarter of the OPCW's total costs, is highly questionable. More significantly, the export of Schedule 2 chemicals to non-parties of the CWC may occur for three years after entry into force of the CWC, if end-use certificates are presented. The certificate must include a statement by the recipient state that the chemical will only be used for permitted purposes, assurance that the chemical will not be re-transferred, the types and quantities of the chemical, its end-use, and the name and address of the end-user. There is no limitation on quantities transferred. After three years, transfer will be permitted only to States Parties.

For trade in Schedule 3 chemicals above 30 tons, information must be submitted in the annual declarations for the previous calendar year on aggregate national data for export of each chemical and specification of export for each country. There are no quantity limitations on the transfer of Schedule 3 chemicals. Moreover, there is no point at which a cut-off in trade in Schedule 3 chemicals will occur. This is significant since most Schedule 2 chemicals are covered by Australia Group controls and U.S. domestic law. That is to say, nearly all of the U.S. chemical trade overseas derives from the export of chemicals that are either listed on Schedule 3 or are not controlled by the CWC at all.

C. MONITORING AND VERIFICATION

Introduction

Then-Vice President George Bush told CWC negotiators in Geneva on April 18, 1984:

> For a chemical weapons ban to work, each party must have confidence that the other parties are abiding by it * * * No sensible government enters into those inter-

> national contracts known as treaties unless it can ascertain—or verify—that it is getting what it contracted for.

In ascertaining the "verifiability" of the Chemical Weapons Convention, however, the Executive Branch and the Senate must do more than simply determine that the United States is "getting what it is contracted for." The U.S. Government must also assess both the "military significance" of possible violations and the probability of timely detection of these violations. In turn, this entails determining the degree of risk to U.S. national security that would be posed by possible violations and the timeliness of the warning that the United States would require in order to respond effectively.

It is the responsibility of the intelligence community to assess U.S. capability to monitor the compliance of other parties to the Convention. In the past, such assessments have been derived taking into account various cheating scenarios and the implications of non-compliance. Other Executive branch agencies share the responsibility for considering the military significance of non-compliance in determining whether or not a treaty is "effectively verifiable."

On the basis of administration testimony, our review of classified information, and our understanding of the widespread, dual-use nature of chemicals with weapons applications, we must conclude that not only is the Chemical Weapons Convention not effectively verifiable—it is not even minimally verifiable.

Standards of effective verification

A cogent definition of "effective verification" was offered the Committee during its consideration of the Intermediate Nuclear Forces (INF) Treaty in 1988 by Ambassador Paul Nitze:

> What do we mean by effective verification? We mean that we want to be sure that, if the other side moves beyond the limits of the Treaty in any militarily significant way, we would be able to detect such violation in time to respond effectively and thereby deny the other side the benefit of the violation.

The standard for effective verification was reaffirmed and clarified by the Director of the Arms Control and Disarmament Agency, Major General William Burns, in testimony before the Committee on January 24, 1989 on ongoing negotiations for a multilateral chemical weapons ban:

> What is effective verification? It is a system by which we can have a high level of assurance that we will be able to detect a violation of the terms of the treaty early enough so we can do something about it. That is sort of a simple layman's definition, I think, of effective verification.

Secretary of State James Baker further elaborated upon the nature of an effective verification regime when responding to a question from Senator Pell on the START Treaty in January, 1992:

> A key criterion in evaluating whether the START agreement is effectively verifiable is whether, if the other side attempts to move beyond the limits of the Treaty in any militarily significant way, we would be able to detect such

> a violation well before it became a threat to national security so that we are able to respond. Additionally, the verification regime should enable us to detect patterns of marginal violations that do not present immediate risk to U.S. security. However, no verification regime can be expected to provide firm guarantees that all violations will be detected immediately.

Administration views on effective verification of the CWC

Certainly previous administrations have developed a yardstick of effective verification during Senate deliberations over other arms control treaties. The committee noted as much in Executive Report 102–53 in evaluating the verifiability of the START Treaty. However, with the CWC the Clinton administration has deviated from its predecessor's definition of effective verification. As can be seen in the aforementioned quotes, "effective verification" consisted of: (1) a "high level of assurance" in the intelligence community's ability to detect (2) a "militarily significant" violation in (3) a "timely fashion." Moreover, an effective verification regime should, according to Secretary of State Baker's testimony, provide detection of patterns of marginal violation. These, then, are the elements of the standard of effective verification put forward in the 1980s during Senate consideration of previous arms control treaties. The term "effective verification" itself arose from Senate insistence upon more stringent conditions than the standard at the time—"adequate verification."

The committee received testimony in open sessions on the verifiability of the CWC from a number of administration witnesses. In nearly every appearance by Clinton administration witnesses, the committee was told that the CWC is "effectively verifiable." The Director of the Arms Control and Disarmament Agency, John Holum, stated on March 22, 1994, that "We are quite confident that the treaty is effectively verifiable." Walter Slocombe, Deputy Under Secretary of Defense for Policy, echoed this judgment on May 13, 1994, when he stated: "No treaty is 100 percent verifiable. But the Chemical Weapons Convention is effectively verifiable."

Yet simply saying that the CWC is effectively verifiable does not necessarily make it so. We believe, in light of other testimony, that the Clinton administration is using a far different yardstick when it assesses the effectiveness of the CWC's verification regime. In particular, the administration has repeatedly noted that it does not have a high degree of assurance/confidence in its ability to detect noncompliance. Nor, for that matter, has the administration indicated confidence in the ability of the intelligence community to detect small-scale production or patterns of "marginal violation." In short, the new definition of "effective verifiability" seems less akin to the high standard set in the late 1980's, and more similar to the less stringent standard of "adequate verifiability" adopted during the Carter administration.

In this vein, then-Deputy Secretary of Defense, John Deutch, testified before the Armed Services Committee on August 11, 1994, that:

> Over time, through its declaration, routine inspection, fact finding, consultation, and challenge inspection mecha-

> nisms, the CWC's verification regime should prove *reasonably* effective [emphasis added].

Degrees of confidence

In 1989, the United States made a major diplomatic "push" to move forward multilateral negotiations on a global chemical weapons treaty. At that time, administration witnesses raised concerns before the committee suggesting that a multilateral treaty banning chemical weapons would be extremely difficult to verify. On March 1, 1989, in response to a question by Senator Pell asking if a chemical weapons ban could be monitored sufficiently so as to ensure detection of a violation, the then-Director of Central Intelligence, William Webster, stated:

> As I said earlier, it is the most difficult challenge that we have in the intelligence community. These plants all can be converted. You can make a plant that will look like a fertilizer plant or a pharmaceutical plant.
>
> In all the negotiations, we have been talking verification as a very important part of any kind of multilateral treaty. But this, in itself, is going to be costly and difficult, and, presently, *the level of confidence is quite low* [emphasis added], because, unless you can go anywhere, any time, these plants can be cleaned out and made to look like a legitimate enterprise on very short notice.
>
> There are some clear intelligence indicators, but they can be removed.

Major General William Burns, Director of the Arms Control and Disarmament Agency, testified on January 24, 1989, that:

> The crucial issue, then, is verification. I believe that verification of any chemical ban is going to be extremely difficult. Probably more difficult than verification of a strategic nuclear arms treaty.

General Burns further noted, in response to a question by Senator Lugar, that:

> Senator, I would not go so far as to say that a treaty, because of its ultimate intention or overall worth, should be accepted with a marginal capability to verify it. I think, if we are going to sign a treaty in arms control, it cannot be based on trust; it must be based on verification.
>
> So, I would not advocate the signing of a chemical convention banning chemical weapons, unless we are sure that we had an effective means to ensure that the signatories would abide by the treaty.

Five years later, the intelligence community was unable to provide the committee with assurances that the CWC could be monitored with a sufficient degree of confidence to detect noncompliance. The then-Director of Central Intelligence, James Woolsey, declared in testimony before the Senate Foreign Relations Committee on June 23, 1994:

> The chemical weapons problem is so difficult from an intelligence perspective, that *I cannot state that we have*

> *high confidence* in our ability to detect noncompliance, especially on a small scale [emphasis added].

Walter Slocombe, Deputy Under Secretary for Policy, Department of Defense, testified before the Committee on May 13, 1994 that:

> Detecting illicit production of small quantities of chemical weapons will admittedly be extremely difficult, not least because of substantial overlap in the technology for producing chemical weapons and the technology for producing many industrial chemicals.
>
> However, we are confident that we would be able to detect large-scale production, filling, and stockpiling of chemical weapons.

On August 9, 1994, in testimony before the Senate Armed Services Committee, Major General John Landry, National Intelligence Officer for General Purpose Forces, stated:

> As I have indicated in the briefing on monitoring, we are concerned about our ability to monitor prohibited activities. * * * in fact, to the extent that they maintain smaller, covert programs, it's very difficult to detect, indeed.

General Landry further added:

> * * * if we have never detected before a state as having a program, and so it has remained undetected, a covert program, and you are asking me can we detect it, I am telling you that it is very difficult.

Similarly, then-Deputy Secretary of Defense, John Deutch, testified before the Senate Armed Services Committee on August 11, 1994, that:

> * * * I think both General Shalikashvilli and I have been clear that this treaty is not perfectly verifiable.
>
> There are certain kinds of surreptitious production of chemical agents that would be possible in this regime, and the verification schemes which were set up in the treaty, in our judgment, would not capture with 100 percent certainty, even taking into account the very intrusive challenge inspection provisions allowed.

Finally, the Arms Control and Disarmament Agency, in accordance with Section 37 of the Arms Control and Disarmament Act, submitted an interagency report on March 18, 1994, entitled "Chemical Weapons Convention Verification." That assessment made the following determination:

> The verification provisions of the CWC, in combination with national intelligence means * * * are *insufficient to detect, with a high degree of confidence,* all activities prohibited under the Convention [emphasis added]. The larger and more systematic the violations, the higher the probability that, over time, evidence of these would surface. The * * * existence of a program with the scope and size of the former Soviet Union's would be difficult to completely conceal under the Convention.

While it may be true, as the administration has repeatedly asserted, that it would be difficult to conceal the existence of a program the scope and size of the former Soviet Union's, most countries that envision a need for chemical weapons hardly intend to wage World War III and conquer Western Europe. A country desirous of developing a militarily significant stockpile of chemical agent need not engage in a program anything like that undertaken by the former Soviet Union.

Military significance and timely detection

The Chairman of the Joint Chiefs of Staff, General John Shalikashvilli, testified before both the Senate Committee on Foreign Relations and the Senate Committee on Armed Services that the determination of military significance with respect to chemical weapons does not readily translate to a single, quantifiable answer. In testimony before the Foreign Relations Committee on June 23, 1994, General Shalikashvilli noted:

> A militarily significant quantity of chemical weapons is very situationally dependent. Variables involved in determining this quantity are the military objective, weather, terrain, number of troops, type of chemical agent used, the chemical agent weapons system, and method of employment. And in the chemical weapons defensive capability of the targeted force.

General Shalikashvilli clarified this view, however, in response to a question later during his testimony, when he noted that "clearly, one SCUD missile containing roughly half a ton of chemical is militarily significant to those on whom that missile lands."

In earlier testimony before the Armed Services Committee, on August 11, 1994, General Shalikashvilli stated that:

> In certain limited circumstances even one ton of chemical agent may have a military impact * * * With such variables in scale of target and impact of chemical weapons, the United States should be resolute that the 1 ton limit set by the Convention will be our guide.

The bottomline is that a stockpile less than 100 tons of chemical agent can prove of military significance. Unclassified portions of the National Intelligence Estimate on U.S. Monitoring Capabilities indicate that it is unlikely that the U.S. will be able to detect or address violations in a timely fashion, if at all, when they occur on a small scale. And yet, even small-scale diversions of chemicals to chemical weapons production are capable, over time, of yielding a stockpile far in excess of a single ton.

In other words, the intelligence community has low confidence in its ability to detect in a timely fashion the covert production of chemical weapons which could produce militarily significant quantities. This is not "effective verification."

The CWC verification regime

According to a 1989 RAND study, "Domestic Implementation of a Chemical Weapons Treaty," the CWC verification regime is intended to serve five primary functions:

1. assure the destruction of existing chemical-weapons stocks and production facilities;
2. detect violation through rigorous accounting and monitoring;
3. deter noncompliance by increasing the economic and political costs of cheating;
4. build confidence in the regime by demonstrating that States Parties are abiding by their treaty obligations; and
5. provide strategic warning of a country's intent to violate the treaty so that the other Parties can take defensive measures.

The conclusions of the RAND study were more or less echoed in the statements of Administration witnesses. Most significantly, the Administration argued that some of the verification problems associated with the CWC were more than offset by the value of the verification regime as a deterrent and confidence-building measure. In testimony before the Committee on June 23, 1994, then-Director of Central Intelligence James Woolsey noted:

> One question you might wish to consider is whether the CWC will act as a deterrent for some states party who might otherwise have initiated or retained chemical weapons programs. In our judgment, the answer is yes.

Similarly, the Director of the Arms Control and Disarmament Agency, John Holum, stated that on June 23, 1994 that "rigor of verification was an important value but was not the sole value."

Incorporating all of these objectives, the intelligence community has categorized its responsibilities under the Chemical Weapons Convention according to three specific tasks:

Detecting activities prohibited under the Convention, such as the development, testing, production, storage, transfer, or use of chemical weapons;

Assessing data declarations to the OPCW made by States Parties; and

Monitoring eliminations and conversions.

Detecting prohibited activities

The first of these tasks, detection of chemical weapons-related activities, is a function already performed by the intelligence community. It also is a task about which the intelligence community has very low confidences in its ability to detect the production of chemical weapons. In discussing the United States' ability to track the proliferation of chemical weapons that General Landry noted, in testimony before the Senate Armed Services Committee on August 9, 1994, that:

> * * * we will talk specifically about our ability to detect prohibited activities. This is at once our most critical challenge and our most difficult task. The community has taken the position that we have [deleted] in our ability to detect prohibited activities.
>
> * * * Now, when you ask why it is that this is such a difficult task, it is because the national technical means at our disposal [deleted]. I am talking now about overhead reconnaissance means, both imagery and SIGINT * * *

> When you look at the other means available to the intelligence community, for example, HUMINT, it is potentially the most important of the means available to us * * *. Unfortunately, HUMINT is very difficult to rely upon * * *. In addition to that, you cannot program HUMINT the way you can national technical means, and frankly, the reporting lags the event fairly significantly.
>
> * * * There are other means that we have that today give us some results, not as much as we would like. But in the future they will give us a much better capability, and we are staking much of our hopes on those.

In general, the intelligence community has poor confidence in its ability to detect prohibited activities, stemming from three aspects of the chemical weapons problem: (1) the large number of sites involved in chemical activities worldwide; (2) the dual-use nature of chemical manufacturing and production; and (3) the fact that most prohibited activity can be easily concealed or disguised. The most significant cheating activities for which no adequate technical means of detection exist are:

> development of clandestine production facilities (which may have no observable features and which can be quite small if devoted solely to agent production);
>
> diversion of common chemicals with chemical weapons applications;
>
> production of non-classical agents which are not on the CWC's Schedules and therefore are beyond the capability of inspectors to detect;
>
> stockpiling of chemical munitions which are, according to the OTA, "small, impossible to distinguish visually from high-explosive shells, and easy to conceal;" and
>
> development of binary agents which can be stored separately and readily explained as stored commercial chemicals.

According to a study prepared under contract from the Defense Nuclear Agency by former ACDA Assistant Director Kathleen Bailey and six others, entitled "Noncompliance Scenarios: Means By Which Parties to the Chemical Weapons Convention Might Cheat," "cheating on the Chemical Weapons Convention can be technically easy and relatively inexpensive." Using an area 40' x 40', a small portion of which must be 40' high, a group of skilled chemists and chemical engineers could produce 100 tons/year of an agent utilizing chemical processes described extensively in open literature and using equipment commonly found in university laboratories. It would cost less than $2 million to build such a plant to produce mustard phosgene, for instance. Indeed, as the Aum Shinrikyo experience demonstrated, an even smaller area with far more crude equipment may yield significant quantities of agent.

Assessing data declarations

The CWC requires initial and annual data declarations on all chemical weapons and chemical weapons production/storage facilities and on all facilities that produce quantities of certain types of chemicals beyond various thresholds. It falls to the intelligence community to assess the veracity of data supplied to the OPCW by various member states. The intelligence community's monitoring

confidences regarding this aspect of the CWC are dependent upon: (1) access to the declarations made by other states parties; and (2) the adequacy of baseline information against which data declarations may be compared. In the words of General Landry, the National Intelligence Officer for General Purpose Forces, assessment will be hampered by "many shortfalls in baseline knowledge * * *"

ACDA's report on CWC verification notes that:

> The U.S. will be able to verify the veracity of declarations with a degree of confidence which will vary with the State Party, the specific type of declaration, the effectiveness of the inspection regime, and the availability of parallel intelligence.

A January 18, 1994 "Red Team" assessment, "Chemical Weapons Convention Verifiability Assessment," prepared by former ACDA assistant director Manfred Eimer and five others under contract to ACDA, concluded that the CWC would be forced to cover far too many chemical plants to prove highly verifiable, and that therefore:

> * * * the minimum reporting and production limits have been set well above what constitutes a militarily significant amount of agent, removing potentially dangerous sites from the possibility of routine surveillance and its deterrent effect.

In other words, because verification of the CWC is bedeviled by the dual-use nature of chemicals in general, and by the relative ease with which chemical weapons precursors may be acquired, a truly verifiable regime would have required data declarations from a far greater number of businesses. Accordingly, we assess the contribution of the data declaration regime of the CWC to U.S. monitoring of the chemical weapons problem to be minimal. However, it is conceivable that the data declaration requirements of the CWC may encourage "whistle blowers" to reveal questionable or undeclared activities.

Monitoring eliminations and conversion

The intelligence community has a greater degree of confidence in its ability to verify the destruction of chemical weapons and agent stocks than it does in the other monitoring requirements associated with the CWC. Given adequate access, routine monitoring to check data declarations, systematic inspections of chemical weapons storage, production and destruction facilities, the intelligence community should be able to determine, with a fair degree of assurance, that declared stocks and facilities have been destroyed.

Ensuring continuing compliance at converted facilities, however, faces similar problems as those associated with the detection of prohibited activities. As General Landry noted to the Armed Services Committee, "It is when you get into the issue of conversion of facilities and your ability to assure yourself that those facilities will remain unrelated to chemical warfare programs that we have some concern."

We are concerned with the intelligence community's low confidences regarding compliance at converted facilities in light of the fact that the Defense Intelligence Agency stated on May 6, 1996,

that Russia will seek to retain a "core capability" in the form of a "production mobilization" capability.

Andrei Zheleznyakov, a Russian scientist involved in Russia's binary weapons program, commented to The Wall Street Journal that "the generals cannot be trusted with the destruction of chemical weapons. The money received from the Americans will definitely be channeled into the development of new and more powerful toxic substances." Even more disturbing, the General Accounting Office (GAO) drafted a report in May, 1995, documenting its finding that U.S. defense conversion assistance was being channeled by Russia into chemical weapons research. According to the GAO:

> Recipients of two Center grants at three different institutes told us they had been involved in nuclear weapons testing and nerve agent research. They noted that the grants were important in redirecting their research and helping them survive the current economic conditions.
>
> * * * We found that Center-supported scientists are not necessarily employed full-time on Center projects and that they may spend part of their time working on Russian weapons of mass destruction. They may remain employed by FSU laboratories and most work less than 100 percent of their time on Center projects. Some work as little as ten percent—raising the prospect that they could spend the remainder of their time on their institutes" work on weapons of mass destruction.

The GAO assessment is particularly troubling given the Defense Intelligence Agency's May 6, 1996, acknowledgment to the Chairman of the Senate Select Committee on Intelligence that Russia intends to produce chemical weapons, regardless of whether or not it ratifies the CWC:

> While some parts of the infrastructure of the Soviet/Russian CW program have been downsized and restructured, a core capability may be retained. The future Russian CW program will rely more on the technology to rapidly mobilize production and less on the manufacture and retention of large quantities of war material.

Furthermore, both the GAO and DIA studies would seem to lend credence to allegations made by several Russian dissidents in a letter to Senator Helms on August 25, 1994. At that time, the President of Resistance International, Mikhail Makarenko, wrote:

> General Kuntsevich announced at a press conference at the beginning of 1992: "In Russia all problems of bacteriological warfare have come to an end. We have no stockpiles of biological weapons, consequently there is no problem with their destruction." Nevertheless, Russia's capability of waging biological warfare has been preserved. It has not decreased by one millimeter.
>
> For that reason, there exists a mobility branch in the State Concern "Biopreparat" and a mobility plan which covers what quantities and what formulae are necessary to immediately start up again production of the biological

> weapon "S.Pl.2," upon receipt of orders from the military. To begin this production requires only a few weeks.
>
> All equipment is now in a preserved state, in special workshops at biochemical production centers functioning today.
>
> These workshops are standing ready at chemical factories—in the Berdsk and Omutninsk chemical factories and the "Progress" chemical factory and at others.

We should not allow Russia to convert to commercial uses any facility if we cannot be completely confident that a mobilization capability will not be maintained and that clandestine production will not occur at that plant.

Challenge inspections

The CWC provides for challenge inspections at any location for the purpose of resolving questions of noncompliance. A request for a challenge inspection must be submitted to the Executive Council and to the Director-General of the Technical Secretariat, along with evidence supporting the request. The CWC requires that the Executive Council may either approve the request or, within 12 hours after receipt of the request, decide (by a three-quarter majority vote of all its members) against carrying out the challenge inspection. Given the impossible odds of mobilizing 31 of 41 members of the Council to vote against a request 12 hours after it is issued, it is expected that most challenge inspections will proceed.

Following the conduct of a challenge inspection, the Executive Council will review the final report and, in addition to making compliance determinations, will address concerns as to whether the request was within the scope of the Convention and whether the right to request a challenge inspection was abused. If the Executive Council concludes that there was abuse, it may recommend to the conference measures to be taken against the requesting party, to include the assessment to the requesting party all or a portion of the costs of the inspection.

The CWC seeks to balance the need for intrusiveness to verify compliance with the need for protection of sensitive information of national security or commercial, proprietary concern. Accordingly, the party to be inspected is obligated to accept a challenge inspection. At the same time, the Convention provides for managed—rather than unrestricted—access to a challenged site. The CWC specifies time-frames of access, limitations on observers, and a process of negotiated access on-site.

The problem with this is that CWC challenge inspections, while perfectly suitable for stealing trade secrets, possess timeframes and loopholes that render extremely unlikely the detection of a "smoking gun." The CWC requires the OPCW to provide an inspected State Party a minimum of 12 hours notice prior to the arrival of an inspection team at the point of entry. For declared facilities, the inspected party must provide the inspection team access to the site within 27 hours after the team's arrival at the point of entry. Thus a inspected State Party will have a minimum of 39 hours warning of an inspection at a declared facility, assuming that the Director General dispatches an inspection team immediately (the requirement for him to do so is not specified in the treaty).

For inspections of an undeclared facility, the inspected country will again be given at least twelve hours advance notice, and may take up to 108 hours to allow access of the inspection team within the perimeter of the site. In other words, a country may delay access to the interior of an undeclared site for 4.5 days, and will have at least 5 days advance warning.

On March 1, 1989, then-Director of Central Intelligence, Judge William Webster, drew the Committee's attention to how little time is required to successfully conceal evidence of chemical weapons production:

> Because much of the equipment needed to produce chemical warfare agents can also be used to produce legitimate industrial chemicals, any pharmaceutical or pesticide plant can be converted to produce these agents. A nation with even a modest chemical industry could use its facilities for part-time production of chemical warfare agents.
>
> Libyan leader Qadhafi, in a speech delivered in October, claimed that the facility at Rabta is intended to produce pharmaceuticals, not chemical warfare agents. He proposed opening the complex for international inspection. But within fewer than 24 hours, some say 8½ hours, it would be relatively easy for the Libyans to make the site appear to be a pharmaceutical facility. All traces of chemical weapons production could be removed in that amount of time.

Furthermore, delays ranging between two to sixteen hours have proven problematic for U.N. inspectors in Iraq in their efforts to detect Iraqi chemical, biological, nuclear, and ballistic missile activities. A 5-day delay would allow ample time to pursue concealment activities, such as producing pesticides on a line used to manufacture nerve agent (e.g., production of the pesticide methyl-parathion instead of the nerve agent sarin).

General John Landry, National Intelligence Officer for General Purpose Forces, highlighted the problem posed by delays for the Armed Services Committee on August 9, 1994:

> Data declarations and the routine inspections will give us some degree of assurance. The most important of those, however, are the challenge inspections at undeclared sites, at which we would have the opportunity to tag munitions, to sample at the perimeters that have been identified, and to inspect commercial production facilities. Our concern here are delays.
>
> For example, under the current provisions that are being worked out, those delays could take up to five days, and there is a provision called "managed access," in which the perimeter of a challenge state's area which we could sample would be chosen by the state itself * * * These, in fact, limit the selection against these targets that we are concerned with.

In addition to these concerns, once at the site, the challenge inspection period is limited to 84 hours, and can be extended only by agreement with the inspected party. Further, while the requesting party can also request to have an observer accompany the inspec-

tion team, the inspected party may disapprove the observer's participation, or limit the access and activities of the observer to the site perimeter.

In sum, the inspected party has the final say in determining: (1) the extent of access to any particular place or places within the final or requested perimeters; (2) the particular inspection activities (including sampling); (3) the performance of particular activities by the inspected party; and (4) the provision of particular information. Nonetheless, the inspected party is under the obligation to make every reasonable effort to respond to the concerns underlying the request, including offering alternate means to resolve concerns.

Universality

In testimony before the Governmental Affairs Committee on February 24, 1993, the then-Director of Central Intelligence, James Woolsey, stated:

> More than two dozen countries have programs to research or develop chemical weapons, and a number have stockpiled such weapons, including Libya, Iran, and Iraq. The military competition in the always volatile Middle East has spurred others in the region to develop chemical weapons. We have also noted a disturbing pattern of biological weapons development following closely on the heels of the development of chemical weapons.

Further details were provided in testimony before the Armed Services Committee on August 9, 1994, by General John Landry and members of the intelligence community. They identified 15 countries as having active programs. Six additional states were classified as having either inactive programs, or as being cases where insufficient information existed to make a determination on the existence of a program. In March, 1995, the Nonproliferation Center of the Central Intelligence Agency released an unclassified estimate that gave a troubling assessment of the likely impact the CWC would have upon the proliferation of chemical weapons:

> A number of states continue to pursue the development or enhancement of a chemical weapons (CW) capability. Some states have chosen to pursue a CW capability because of the relatively low cost of—and low technology required for—CW production. Moreover, they believe that a CW capability can serve as both a deterrent to enemy attack and as an enhancement of their offensive military capabilities. Currently, at least fifteen countries have an offensive CW program at some level of development. The most aggressive chemical weapons programs are in Iran, Libya, and Syria.
>
> CW proliferation will continue to be a serious threat for at least the remainder of the decade, despite a number of arms control efforts, such as the Chemical Weapons Convention (CWC). Several countries of proliferation concern—including Libya, Syria, and Iraq—have so far refused to sign the CWC, and some CW-capable countries that have signed the CWC show no signs of ending their programs.

While the intent of the CWC is to create a global chemical weapons ban, some believe accomplishing that goal unlikely. Six countries with chemical weapons programs—including all of those with "aggressive programs"—have not yet signed the CWC, let alone ratified it. In this medium we are able to discuss eleven countries believed to possess ongoing, offensive chemical weapons capabilities have not ratified the Convention.

Countries believed to possess chemical weapons capability that have not ratified the CWC: China [1], Iraq, Pakistan [1], Egypt, Israel [1], Russia [1], Taiwan, Libya, Syria, Iran [1], and North Korea.

[1] Indicates the country is a signatory to the CWC.

The following information is drawn from Administration testimony, reports to the Congress, and a report by the Russian Foreign Intelligence Service. We have included this section to demonstrate: (1) that the countries possessing chemical weapons will not be bound by the CWC; (2) that they will continue to pursue chemical weapons regardless of whether or not the treaty is ratified by the United States; and (3) these countries will be only marginally hampered by outside efforts to constrain their access to chemical weapons precursors. Some of them, such as Libya, Iran, Iraq, and North Korea, are already subject to the most stringent sanctions regimes imaginable—and still their production of chemical weapons continues apace.

China

According to an April, 1996, report issued by the Office of the Secretary of Defense, Proliferation: Threat and Response:

> China has a mature chemical warfare capability and may well have maintained the biological warfare program it had prior to acceding to the Biological Weapons Convention in 1984. It has funded a chemical warfare program since the 1950s and has produced and weaponized a wide variety of agents. Its biological warfare program included manufacturing infectious micro-organisms and toxins. China has a wide variety of delivery means available, including ballistic and cruise missiles and aircraft, and is continuing to develop systems with upgraded capabilities. * * * In the past, China has exported chemical warfare-related material and missile technology and components to Iran.

China has signed, but has not ratified the Chemical Weapons Convention.

Egypt

The Russian Federation's Foreign Intelligence Service released a report in March, 1993, entitled A New Challenge After the Cold War: Proliferation of Weapons of Mass Destruction. The report concluded that Egypt:

> * * * has the scientific and industrial base that is sufficient for the production of certain types of chemical weapons involving the use of local and imported raw materials. Specifically, techniques for the production of nerve and blister agents have been assimilated. There is information

> to the effect that Egypt is displaying interest in overseas purchases of warheads for liquid chemical agents. The stockpiles of chemical agents available at this time are insufficient for broad-based operations, but the industrial potential would make it possible to produce additional quantities in a relatively short period of time. The substantial industrial capacity for the manufacture of pesticides using techniques similar to chemical agent production processes are a significant reserve for chemical weapons production.

Egypt has neither signed nor ratified the Chemical Weapons Convention.

Iran

On March 1, 1989, the then-Director of Central Intelligence, Judge William Webster, testified that:

> Iran's chemical weapons production facility is located in the vicinity of Teheran.
>
> Iran produces the blister agent mustard, blood agents, and nerve agents, and, like Iraq, has filled some bombs and artillery with these agents.

Subsequently, then-Director Woolsey added additional information on February 24, 1993, in testimony before the Governmental Affairs Committee:

> Iran has an active chemical warfare program. It used chemical weapons in response to Iraqi use during the Iran/Iraq war, and it can still manufacture hundreds of tons of chemical agent every year. Although it produces primarily choking and blister agents, Iran may have a stockpile of nerve agents. Biological weapons, if not already in production, are probably not very far behind there.

Director Woolsey additionally stated in a response to Senator McCain:

> Iran has produced at least several hundred tons of blister, choking, and blood agents, and may have produced as much as 2,000 tons of agent.

The Russian Federation's Foreign Intelligence Service reported in March, 1993, that:

> Iran possesses at least two types of chemical weapons.
>
> During the Geneva conference to formulate a global convention to ban chemical weapons, in 1992 Iran's representatives confirmed the presence of chemical weapons in the Islamic Republic of Iran.
>
> At present the industrial production of mustard gas and sarin has been established in Iran. A plant for the production of pesticides, which could be used as precursors in the manufacture of nerve and blister agents, operates not far from the capital.
>
> In terms of the assortment of starting chemicals, Iran is partially dependent upon imports.
>
> The main chemical munition with which the Iranian Army is equipped are 155 mm artillery shells for Amer-

> ican-made howitzers, 120 mm mines, and chemical aerial bombs.
>
> Research is being conducted in the area of synthesizing chemical agents and the search for new physiologically active substances.

Three years later, an April, 1996, report issued by the Office of the Secretary of Defense, Proliferation: Threat and Response made available yet more unclassified information.

> Iran has been producing chemical agents at a steadily increasing rate since 1984, and has cumulatively produced at a minimum several hundred tons of blister, blood, and choking agents. Tehran has weaponized some of these chemical agents—a weapons stockpile to support ground combat operations. In addition, Iran could attempt to deliver chemical bombs against targets such as airfields, ports, or oil installations across the Persian Gulf.
>
> Iran has increased defensive and offensive chemical warfare training for its ground forces in the last two years. Furthermore, it is making efforts to buy defensive chemical equipment from foreign sources, perhaps as a prelude to acquiring indigenous production capability.
>
> Although Iran has signed the CWC, its efforts to establish an independent chemical production capability and a wider program to put chemicals into battlefield weapons cast doubt on its adherence to the agreement.

On May 10, 1996 the Central Intelligence Agency reported to the Chairman of the Senate Select Committee on Intelligence that:

> Iran's CW program is already among the largest in the Third World, yet it has continued to expand and become more diversified, even since Tehran's signing of the CWC in January 1993. Iran's stockpile is comprised of several thousand tons of CW agents, including sulfur mustard, phosgene, and cyanide agents, and Tehran is capable of producing an additional 1,000 tons of these agents each year. In addition, Iran is developing a production capability for the more toxic nerve agents and is pushing to reduce its dependence on imported raw materials. Iran has various dissemination means for these agents, including artillery, mortars, rockets, aerial bombs, and, possibly, even Scud warheads.

We are particularly troubled with this last assessment. Iran is the only state with an "aggressive" chemical weapons program that has signed the CWC. It has not ratified, and it clearly has no intention of abiding by the treaty. The Defense Intelligence Agency noted on May 6, 1996, that "As part of this expansion [of its CW program], Iran is making long-term capital improvements to its CW program, suggesting that it intents to maintain a CW- capability well into the future."

This latest DIA assessment reinforces comments made on November 1, 1995, by the Director of the Nonproliferation Center of the Central Intelligence Agency, Gordon Oehler, who testified before the Committee on Government Affairs that Iran "also is devel-

oping a production capability for precursor chemicals it needs to support chemical agent production, and within several years may become virtually independent of imported raw materials."

Iraq

Judge Webster stated in 1989:

> At Samarra, Baghdad produces the blister agent mustard and the nerve agents tabun and sarin. Several types of weapons, including bombs and artillery shells and rockets, have been filled with these agents.

In his written statement for the record before the Committee on Government Affairs on November 1, 1995, Gordon Oehler, Director of the Nonproliferation Center, stated:

> Iraq admitted producing 65 tons of chlorine, intended for the production of VX, and had more than 200 tons each of the precursor chemicals phosphorous pentasulfide and diisopropylamine. Together, these three precursors would have been sufficient to produce almost 500 tons of VX.
>
> Iraq developed a true binary sarin-filled artillery shell, 122-mm rockets, and aerial bombs in quantities beyond the prototype level.
>
> An Al Husayn missile with a chemical warhead was flight-tested in April 1990.

Lieutenant General Hughes, Director of the Defense Intelligence Agency, testified before the Senate Select Committee on Intelligence on February 22, 1996, that:

> We now know that Baghdad had a more extensive chemical warfare effort than originally believed, including the production of VX and binary sarin for delivery by artillery, rockets, and aerial bombs.

The April, 1996, Department of Defense report, Proliferation: Threat and Response, found:

> In the absence of UN monitoring or import controls, Iraq could revive a viable chemical weapon capability in a matter of months, despite war damage to its production and storage facilities. The Iraqis still have a domestic chemical industry, and converting some of these plants from producing chemicals to producing chemical warfare precursors and even agents would be relatively straightforward. Iraq retains the capability to deliver chemical agents using a variety of munitions, including artillery shells and rockets, aerial bombs, spray tanks, mortar rounds, and SCUD-type missile warheads.
>
> Iraq's past use of chemical weapons demonstrates its willingness to ignore international norms of conduct.

Iraq has neither signed nor ratified the Chemical Weapons Convention.

Libya

Then-Director of Central Intelligence, James Woolsey, testified before the Governmental Affairs Committee on February 24, 1993:

> Even as it publicly proclaims its good intentions, Libya is constructing a second chemical weapons production facility. The new facility recently described in the media is yet another indicator of the extent to which Libya—apparently unchastened—will go to evade international attempts to prevent its development of chemical weapons.

In a response to a question asked by Senator Levin, Director Woolsey added:

> Libya also is building a second CW agent plant near Tarhunah and is attempting to establish an indigenous precursor chemical production complex near Benghazi.
>
> We estimate that Libya has produced at least 100 tons of CW agents, mostly the blister agent mustard and smaller amounts of the nerve agent sarin. The Libyans also could produce the more toxic nerve agent soman in the future. In our judgement, Libya would use chemical bombs to deliver its agents. It may intend to develop a chemical warhead for missiles.

The Russian Federation's Foreign Intelligence Service reported in March, 1993, that:

> Libya has certain stocks of chemical weapons—70–80 tons. Until recently, certain types of chemical agents (sarin, mustard gas, phosgene) were produced in Libya, but in limited quantities. The stock of chemical agents that has been produced is considered inadequate for conducting large-scale combat operations. * * *
>
> Some experts are concerned about the construction of a chemical plant in the Ubari area that is currently under way. Nor can the possibility that research work is continuing in the area of chemical weapons at the facilities of the military research center in the Gharyan region, where laboratory equipment and the necessary chemical components purchased overseas are concentrated, be ruled out.

Most recently, the April, 1996 report issued by the Office of the Secretary of Defense found:

> Although the Rabta facility appears inactive, Libya's chemical weapons program continues to flourish. To replace the Rabta facility, Libya has begun constructing a large underground chemical warfare plant near Tarhunah, a mountainous region about 60 kilometers southeast of Tripoli. Putting the facility underground masks its activities and increases its survivability in case of attack. In the meantime, Libya will rely on foreign sources for its precursor needs.
>
> Libya claims it will not sign the CWC as long as other countries in the region possess NBC weapons. Libya almost certainly will keep its chemical warfare program as long as Qadhafi remains in power.

Libya has neither signed nor ratified the Chemical Weapons Convention.

North Korea

On February 23, 1993, then-Director of Central Intelligence, James Woolsey, provided a written response to a question by Senator McCain which stated:

> North Korea is capable of indigenously producing nerve gas, blood agents, and mustard-gas that could be delivered by mortars, artillery pieces, multiple rocket launchers, and Scud missiles. In addition, the North Korean Air Force probably has bombs capable of delivering chemical agents. Several of North Korea's large chemical complexes could be capable of producing chemical agents, but we have little information on possible production rates and types of munitions.

Russia's Foreign Intelligence Service reported in March, 1993, that:

> The information available to international experts indicates that the DPRK has a program of military-applied work in the chemical area and an adequate industrial base.

The Department of Defense was more specific in its April, 1996 report, Proliferation: Threat and Response:

> Since the late 1980's, North Korea has intensified and expanded its chemical warfare program as part of its military preparedness plan. Today, it can produce large quantities of nerve, blister, and blood chemical warfare agents, and it maintains a number of facilities involved in producing or storing chemical precursors, agents, and weapons.

North Korea has neither signed nor ratified the Chemical Weapons Convention.

Pakistan

The Foreign Intelligence Service of the Russian Federation reported in March, 1993, that:

> There is no reliable information to indicate the existence of chemical weapons in Pakistan. But research of an applied military nature is being conducted in this area.
>
> * * * Available information on Pakistani chemical and biological enterprises shows that they—mainly in pesticide production—are employing technologies that can be used for producing precursors of chemical agents for military purposes.
>
> * * * One of the new signs that prompt us to pay more attention to the possible creation of several kinds of chemical weapons is the purchase of large batches of dual-use chemical raw materials. Thus there are reports that phosphorous compounds used for creating chemical weapons have been shipped into the country.
>
> * * * From assessments by Pakistani environmental protection specialists, we have learned about significant supplies of pesticides (tens of thousands of tons in the provinces of Sindh and Punjab) which are in long-term

> storage. Considering the constant shortage of pesticides in the country's agriculture, there is no explanation for the accumulation of these chemicals.

Pakistan has signed, but has not ratified, the Chemical Weapons Convention.

Syria

According to Judge Webster:

> Syria began producing chemical warfare agents and munitions in the mid-1980's, and currently has a chemical warfare production facility.
>
> Syria has nerve agents in some weapons systems. Damascus conceals its program—it is quite closely held—and, much like its Middle East neighbors, it is quite likely to continue to expand its chemical warfare capability.

The Russian Federation's Foreign Intelligence Service reported in March, 1993, that:

> Syria has a chemical weapons potential. The program to organize the production of chemical weapons began during the seventies. At that time the country created a system for purchasing the appropriate equipment and technologies from developed countries. Its main efforts were concentrated on the creation of an industrial base for the production of semifinished products necessary for chemical agents for military purposes.
>
> At the present time, Syria has developed production capacity for mustard gas and organophosphorous nerve agents based on indigenous raw material and basic semifinished products.
>
> It is typical that Syria does not regard the military chemical agents available to the Syrian army as WMD. According to Syrian military doctrine, military chemical agents are components of military parity only with Israel and will be used only in the event of large-scale aggression by Israel against Syria.

Syria has neither signed nor ratified the Chemical Weapons Convention.

Russia

According to a May 6, 1996, letter from the Defense Intelligence Agency (DIA) to the Chairman of the Senate Select Committee on Intelligence:

> Russia has the world's largest CW program. The Russian stockpile includes over 40,000 tons of chemical agent, most of which is in weapons including artillery, rockets, bombs, and missiles. Russia may also have CW stocks in excess of those declared.

While Russia has signed the CWC, it has not ratified the treaty. Nor has Russia agreed to implement a six-year old U.S.-Russian bilateral Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Conven-

tion on Banning Chemical Weapons (BDA). Indeed evidence has come to light recently suggesting that Russia never intends to implement the BDA, will not pursue ratification of the CWC in the near term, and does not intend to abide by the CWC if it ratifies.

According to DIA:

> There are several factors affecting Russia's actions regarding its CW programs and arms control commitments. Russian officials probably believe they need a CW capability to deter other nations from chemical warfare. They cite a potential threat from purported CW programs in the United States, other Western nations, and several countries on or near Russia's borders.
>
> In addition, Russian officials believe that dismantling the CW program would waste resources and rob them of valuable production assets. They maintain that the CW production facilities should not be destroyed but be used to produce commercial products.
>
> Moreover, these officials do not want to see their life's work destroyed, their jobs eliminated, and their influence diminished.

We are particularly concerned about the views of Russia's senior military leadership on the CWC, and on the elimination of Russia's chemical warfare capability in general. On numerous instances, the United States has received indications that key elements within the Russian government staunchly oppose the CWC. On October 25, 1994, for example, Dr. Lev Fyodorov, head of the Union for Chemical Security, told the Interfax news service that key officers from the Russian Ministry of Defense had spoken against the treaty during the Russian Duma Defense Committee's closed hearings on October 11, 1994.

Russian implementation of the BDA and intent to comply with the CWC

The U.S.-Russian bilateral destruction agreement (BDA) was signed in June 1990 by Presidents Bush and Gorbachev. It banned the production of chemical weapons agents; called for a reduction in U.S. and Russian stocks to 5,000 tons by 2002, requiring cuts of 80 percent in U.S. stocks and 90 percent in Russian stocks; and, significantly, provided for on-site inspections of storage, destruction and production facilities, combined with data declarations.

We are concerned that the administration has refused to provide the Senate, despite two consecutive letters from the Chairman of the Foreign Relations Committee, with an updated assessment of the Russian position regarding the BDA and the CWC. We understand that Russian Prime Minister Chernomyrdin wrote to Vice President Gore on July 8, 1996, stating that both the BDA and the 1989 Wyoming Memorandum of Understanding (MOU) have outlived their usefulness to Russia. Moreover, the Prime Minister (1) tied Russian ratification of the CWC to U.S. agreement to a Joint Statement linking ratification by the United States to Russian ratification, (2) stated that the American taxpayers must pay the cost of the Russian destruction program, and (3) linked ratification to U.S. acquiescence to Russia's position on conversion of its chemical

weapons facilities. This shift in Russian arms control policy will have several important ramifications.

Questions regarding the size of Russia's chemical weapons stockpile

In October, 1994, President Clinton submitted a report to the Congress on Russia's commitment to comply with the Biological and Chemical Weapons Conventions. He noted that " * * * Russia will have some difficulty fulfilling in a timely fashion its obligations under the CWC * * * Progress [in developing a comprehensive chemical weapons destruction program] has been disappointing." Further, the President observed that "Russian implementation of the Wyoming MOU has been problematic," and that "the United States continues to have concerns * * * " The Arms Control and Disarmament Agency's 1995 Pell Report amplified these concerns, noting that Russia has refused to accept the BDA's key provisions and has "taken a minimalist approach to declaration requirements and verification costs of CWC production facilities that is inconsistent with the CWC."

Of the minimalist approaches taken by Russia, one of serious concern is Russia's declaration on the Wyoming Memorandum of Understanding that the total size of its stockpiled chemical weapons was equivalent to 40,000 tons of agent. This declaration has prompted challenges of the veracity of Russian reporting. The Director of Central Intelligence, James Woolsey, testified before the Foreign Relations Committee on June 23, 1994, that the United States had "serious concerns over apparent incompleteness, inconsistency and contradictory aspects of the data" submitted by Russia under the Wyoming MOU. On August 27, 1993, Admiral William Studeman, acting Director of Central Intelligence, wrote to Senator Glenn stating:

> We cannot confirm that the Russian declaration of 40,000 mt is accurate. In addition, we cannot confirm that the total stockpile is stored only at the seven sites declared by the Soviets * * *

Articles in both The Washington Post and The Washington Times alleged that the Defense Intelligence Agency has estimated the Soviet stockpile could be as large as 75,000 metric tons.

Omissions in Russia's MOU data declarations have clear implications for how Russia will interpret the various provisions of the CWC. Because the BDA mandates annual updates to the Wyoming MOU, Russian withdrawal from the BDA may also signal that Russia will henceforth refuse to entertain any additional U.S. questions about the size of its chemical weapons stockpile or its binary weapons program. We are concerned that Russia may intend to provide to the OPCW data which mirrors that provided under the Wyoming MOU. This would, in our view, serve as a clear indicator that Russia intends to violate the CWC.

The Russian binary weapons program

Russia has consistently refused to provide information on the status of its binary chemical weapons program. On June 23, 1994, then-Director of Central Intelligence James Woolsey declared that

"the data we have received from Russia makes no reference to binary chemical weapons or agents. That is contrary to our understanding of the program that was initiated by the former Soviet Union."

Dr. Vil Mirzayanov, former chief of counterintelligence at the State Union Scientific Research Institute for Organic Chemistry and Technology, has stated that the Russian Federation may continue work on novel nerve agents far more lethal than any other known chemical agents—"Substance A–230," "Substance 33," and "Substance A–232." In an article in The Wall Street Journal on May 25, 1994, Dr. Mirzayanov wrote:

> It is very easy to produce binary weapons without detection under the guise of agricultural petrochemicals. The products easily pass all safety tests and become registered with the government as legitimate commercial products. The plant receives a license for production and goes into operation. Neither the firm's leaders, its staff, nor international inspectors know that the chemicals are a component of a new binary weapon.
>
> As the public talks toward banning chemical weapons progressed, the more intense became Russia's secret development and testing of binary weapons * * * our laboratories created Substance A–230, a weapon about which I can only say that its killing efficiency surpassed any known military toxin by a factor of five to eight.
>
> * * * Two more major achievements took place in 1990 and 1991. First, a binary weapon based on a compound code-named Substance 33 passed site tests and was put into production for the Soviet army.
>
> * * * The second development was the synthesis of a binary weapon based on Substance A–232, a toxin similar to A–230. This new weapon, part of the ultra-lethal "Novichok" class, provides an opportunity for the military establishment to disguise production of components of binary weapons as common agricultural chemicals; because the West does not know the formula, and its inspectors cannot identify the compounds.
>
> * * * Fifteen thousand tons of Substance 33 have been produced int he city of Novocheborksarsk * * * But our generals have told the U.S. that Novocheborksarsk is turning out another substance known as VX.

Dr. Mirzayanov and other dissident Russian scientists have claimed that Russia's binary weapons program has been specifically crafted to evade detection under the verification regime of the CWC. They allege that components for the binary agents have been given legitimate commercial applications, that they are not covered under the CWC's schedules, and that OPCW inspectors will not know what they are examining when they come across such chemicals.

Confidence in monitoring Russian conversion of production facilities

The BDA provides for U.S. on-site inspections of Russian storage, destruction and production facilities, combined with data declarations. We agree with the Senate Select Committee on Intelligence September 30, 1994, assessment that:

> The United States would gain real monitoring benefits (and both sides could expect financial benefits) from implementing the BDA, rather than relying upon the OPCW alone to inspect declared Russian and U.S. facilities. Finally, any resolution of Russia's desire to convert, rather than destroy, its CW facilities could set a precedent for conversion under the CWC that would be used by other states.

In a written response on June 23, 1994, to questions for the record, Ambassador Stephen Ledogar stated that:

> As a means of assisting the development of the multilateral CWC, and later as a complement to it, the United States and the Former Soviet Union, and later the Russian Federation, negotiated a separate bilateral agreement providing for destruction and mutual verification of their chemical weapons stockpiles.
>
> * * * In March, 1993, U.S. and Russian delegations agreed ad referendum on detailed implementing procedures and updated provisions for the BDA, including allowing conversion of CW production facilities (CWPF) consistent with CWC provisions. Since that time, the Russian Federation has indicated that they cannot accept some of these provisions and has proposed significant changes, primarily to the portions of the documents concerning conversion of former CWPF.

We assess Russian insistence on excluding several of its chemical weapons-related facilities from the BDA's definition of "chemical weapons production facility," and hence from the CWC's definition, to relate directly to its aforementioned desire to maintain a clandestine chemical weapons production capability. We believe that the U.S. refusal to accede to the Russian position, which would have—in turn—strengthened the Russian case for CWPF conversions under the CWC, may be a primary reason that Russia has refused to implement the BDA.

If the BDA is not implemented, the United States will be forced to verify Russian compliance with the CWC based upon a smaller number of inspections than anticipated under the bilateral arrangement, with inspections of Russian sites by the OPCW rather than by U.S. personnel, and with no guaranteed U.S. access to detailed inspection data. Without the bilateral inspection regime, the intelligence community's already poor confidence level in its ability to monitor Russian treaty compliance will fall even lower.

The financial burden

Lack of agreement on the BDA will create additional financial burdens for the member states of the Organization for the Prohibi-

tion of Chemical Weapons, and the United States in particular since the U.S. is slated to be assessed 25 percent of the OPCW's costs. The OPCW currently is planning under the assumption that the BDA will be in effect. On March 31, 1994, John Gee, Director of the Provisional Technical Secretariat (PTS) for the OPCW, stated that a key planning assumption of the PTS was that:

> the bilateral agreement of June 1990 between the Russian Federation and the United States on destruction and nonproduction of chemical weapons will be in force and in the process of implementation. The commission will recommend that the OPCW decide, pursuant to articles IV and V of the convention, to limit verification by the OPCW to measures complementary to those to be undertaken under this agreement.

As Director Gee indicates, the CWC contains three specific provisions designed to allow bilateral, reciprocal inspections under the BDA to supplant international inspections of U.S. and Russian chemical weapons facilities.

Without the BDA, which allows the U.S. and Russia to conduct verification of one another's destruction programs, the OPCW will need to increase the size of its international inspectorate by at least 92 personnel. The purchase of additional equipment and pay for additional inspectors will in turn drive up the expected costs of the regime (of which 70 percent are associated with verification activities to begin with) by between $30–60 million per year. Moreover, the CWC requires States Parties to pay for monitoring of their chemical weapons production, storage, and disposal facilities. We can only predict that inspection by multinational, United Nations-type organization will prove much more expensive than inspections by the professional inspectorate of the Russian Federation.

D. OTHER ISSUES

The Australia Group

Many chemical weapon agents are easily produced. In the case of first-generation agents, the technology associated with production is over 80 years old, and readily available to most Third World countries. While later generations of chemical weapons—nerve agents in particular—are more difficult to produce (G-Series agents were first developed in the 1930's and V-Series in the 1950's), the technology necessary for research, development, and production of these chemical weapons is becoming increasingly available.

One of the troubling aspects of chemical weapons production is its virtual indistinguishability from production for legitimate commercial purposes or for defensive chemical weapons research. The dual-use nature of chemical weapons derives both from the productive process, which involves the use of standard chemical equipment, and the inherent toxicity of many chemicals. Commercial and military programs both utilize reactor vessels, distillation columns and filters, heat exchangers, and a plethora of other pumps, pipes, and valves. Nowhere are the similarities greater than between pesticide and nerve agent production, stemming largely from the fact that nerve agents were initially developed during research

on pesticides. As a consequence, many precursor chemicals for chemical weapons agents have important civil uses.

The following chart illustrates two points: (1) the dual-use nature of chemical weapons production, highlighting 20 of the 54 chemical precursors controlled by the Australia Group—an informal organization comprised of 29 countries that are committed to ensuring that their exports do not contribute to the spread of chemical or biological weapons; and (2) that the CWC does not, and cannot, hope to control every chemical with potential chemical weapons applications.

Chemical	Commercial uses [1]	Military uses
3-Hydroxy-1-methylpiperidine	Reagent in manufacture of pharmaceuticals and bleach precursors.	Not identified
Potassium fluoride	Catalyst; Glass frosting and etching; Reagent for various chemical processes.	GB, GD, GF
2-Chloroethanol	Agent used to sprout potatoes; Catalyst for olefin polymerization; Reagent for various chemical processes.	HD, Q, Nitrogen mustard (HN–1)
Dimethylamine (DMA)	Acid gas absorbent; Additive in electroplating and antioxidants; Reagent for various chemical processes.	GA
Dimethylamine hydrochloride	Ingredient in ink-jet printing solutions; Reagent for various chemical processes.	GA
Hydrogen fluoride	Solvent extraction; Catalyst in petroleum alkylation process; Reagent for various chemical processes.	GB, GD, GE, GF
Methyl benzilate	Additive to polyurethane; Reagent for various chemical processes.	BZ
3-Quinuclidone	Coating stainless stell with silicone; Reagent for various chemical processes.	BZ
Pinacolone	Separation of impurities from acrylic acid; Reagent for various chemical processes.	GD
Potassium cyanide	Catalyst for benzoin condensation; Fumigating agent; Reagent for various chemical processes.	GA, Hydrogen cyanide
Potassium bifluoride	Agent for etching, frosting and polishing glass.	GB, GD, GF
Ammonium bifluoride	Agent to frost or polish glass; Reagent for various chemical processes.	GB, GD, GF
Sodium fluoride	Agent used in fluoridation; Component of laundry sours; Reagent for various chemical processes.	GB, GD, GF
Sodium bifluoride	Agent used in biological specimen preservation; Component of laundry sours; Reagent for various chemical processes.	GB, GD, GF
Sodium cyanide	Agent used for mineral flotation; Fumigation agent; Reagent for various chemical processes.	GA, Hydrogen cyanide, Cyanogen chloride
Phosphorus pentasulfide	Ingredient in pyrotechnic compositions; Reagent for various chemical processes.	VG, VX
Diisopropylamine (DIPA)	Agent to remove acidic compounds from gases; Reagent for various chemical processes; Stabilizer.	VX
Diethylaminoethanol (DEAE)	Corrosion and rust inhibitor; Curing agent for resins; Reagent for various chemical processes.	VG, VM
Sodium sulfide	Flotation agent in ore processing; Reagent for various chemical processes; Reducing agent.	HD
Triethanolamine hydrochloride	Catalyst for synthesis of imidized acrylic polymers; Reagent for various chemical processes.	Nitrogen mustard. (HN–3)

[1] Illustrative in some cases.

These chemicals, and others, are regulated by the Group because of their direct applicability to the formulation of chemical weapons. To date Australia Group members have instituted controls not only on 54 chemical precursors, but on related technical data, dual-use equipment, and other items that could be used for chemical weapons or biological weapons production.

Because the CWC does not control all chemicals which may be used to formulate chemical weapons, and because most chemical weapons can be developed using a multiplicity of approaches (many chemicals involved in gold and silver extraction, for example, can be utilized to produce the nerve agent Tabun, but so too can Tabun be produced from pesticides), comprehensive controls would be difficult to institute. Accordingly, we believe that the Australia Group should remain a critical element of U.S. nonproliferation strategy regardless of whether the Senate consents to ratification of the CWC or not.

We would note that the CWC's implementation of partial controls over a select group of chemicals for purposes of minimizing the effect upon commercial industry will not foreclose all avenues to the acquisition of a given chemical weapon. Complete controls over these chemicals, however, would have far reaching implications for a vast number of industries and productive processes. Thus regardless of the CWC, control over exports of dual-use chemicals to countries of chemical weapons proliferation concern—many of whom have neither signed nor ratified the CWC—will remain of paramount importance.

The danger here is that the CWC actually holds the potential for accelerating the proliferation of chemical weapons by entitling parties to Western assistance in developing indigenous commercial chemical industries. Article XI, paragraph 2(c) of the CWC creates grounds for such concerns by stating that parties "shall not maintain among themselves any restrictions, including those in any international agreements, incompatible with the obligations undertaken under this Convention, which would restrict or impede trade and the development and promotion of scientific and technological knowledge in the field of chemistry for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes." Paragraph 2(d) of Article XI also enjoins countries "to not use this Convention to apply measures other than those provided for, or permitted, under this Convention * * *" and Paragraph 2(e) requires each State Party to "undertake to review their existing national regulations in the field of trade in chemicals in order to render them consistent with the object and purpose of the [CWC]."

Article XI further specifies that States Parties shall "undertake to facilitate, and have the right to participate in, the fullest exchange of chemicals, equipment and scientific and technical information relating to the development and application of chemistry for purposes not prohibited under this Convention." This creates a controversy over the future of export control regulations as to whether: (a) to keep indefinitely existing export control measures at various levels (national, regional, and international, such as the Australia Group); (b) to maintain controls until the States Parties have evidence that an export control system functions under the CWC; or (c) upon entry into force to review all existing measures and aban-

don organizations such as the Australia Group. At the heart of this debate are different views on the purpose of the CWC. While the Administration has promoted the CWC as a non-proliferation/arms control treaty, some clearly view the CWC as a treaty designed to facilitate trade in chemicals and technology.

The debate continues in the PrepCom over the extent to which Article XI's injunction to ensure the "free and unhampered transfer of chemicals" for peaceful purposes should supersede the obligation of CWC members under Article I not to "assist * * * anyone to engage in any activity prohibited to a State Party" and the right of states to determine their own national export policies. We are troubled by the recent move to use Article XI even to facilitate the exchange of information related to economic and technological development in the field of chemistry, as put forward by the Executive Secretary in PC–IX/B/1, (13 Oct. 1994). Even this could accelerate the spread of chemical weapons capability to countries within the CWC who are judged by the intelligence community as having no intent to abandon their chemical weapons programs.

The dual-use nature of chemicals poses the troubling prospect that foreign assistance could contribute to a program that in turn could be diverted to weapons uses. Moreover, such a diversion might well go undetected. This may explain why some countries with poor arms control compliance records advocate approval of the CWC.

Several countries opine that the CWC should be interpreted to mean that no restrictions be placed on the chemical trade. The governments of Iran, Cuba, India, and Pakistan—all signatories of the CWC—are currently challenging the legitimacy of Australia Group controls which prohibit them from acquiring dual-use chemicals and chemical weapons-capable production equipment. According to ACDA's 1994 Report to Congress, "this provision has some support within the Non-Aligned Movement and will continue to be the subject of contention * * *" Similarly, one of the reasons for the Chemical Manufacturers Association support of the CWC is the anticipation, stated in testimony before the Committee on June 9, 1994, that "an effective CWC could have the positive effect of liberalizing the existing system of export controls applicable to our industry's products, technologies and processes."

When questioned on this by the Senate Select Committee on Intelligence, the Executive Branch stated:

> Australia Group members * * * in August 1992 * * * committed to review their export control measures with a view of removing them for CWC States Parties in full compliance with their obligations under the Convention.

The response added, however:

> The United States and other Australia Group members, while remaining committed to the August 1992 statement and full implementation of Article XI of the CWC, have also made clear their view that the export control and nonproliferation measures they have undertaken as AG members are fully consistent with all of the requirements of the CWC and, indeed, help AG members to fulfill their obligations under Article I of the CWC to "never under any cir-

> cumstances * * * assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party * * *"

The Director of ACDA made a similar reassurance to the Foreign Relations Committee, stating that the Australia Group and domestic export controls are compatible with the objectives of the treaty, and that they will be maintained.

We are unsure, however, how the administration can unilaterally ensure that entry-into-force of the CWC will not erode the consensus now existing among the 29 supplier states of the Australia Group.

The constitutionality of the CWC

The right of the OPCW to inspect private, civilian facilities must be reconciled with Constitutional protection against unreasonable search and seizure. Given the large number of inspectable facilities in the United States, it seems inevitable that eventually a property owner will refuse to consent to an international inspection. The fourth amendment to the Constitution provides that:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

The Supreme Court upheld the notion that the chemical industry retains fourth amendment rights in *Dow Chemical Co.* v. *United States*. The issue in Dow was whether overflight of the plant by an Environmental Protection Agency aircraft constituted a search. While the Supreme Court found that it did not, it also noted that:

> Plainly a business establishment or an industrial or commercial facility enjoys certain protections under the fourth amendment.
>
> * * * Dow plainly has a reasonable, legitimate, and objective expectation of privacy within the interior of its covered buildings, and it is equally clear that expectation is one society is prepared to observe.

The difficulty in reconciling the CWC inspection regime with the fourth amendment stems from a combination of CWC obligations. While constitutional law has treated warrantless administrative search schemes void of penal consequences with some leniency (*Donovan* v. *Dewey* and *New York* v. *Burger*), Article II of the CWC requires State Parties to enact penal legislation. As Barry Kellman, Professor of Law at DePaul University, succinctly notes, because this creates the possibility that "inspections might lead to the discovery of evidence of CWC violations that the treaty itself requires to be punished under domestic law, an accused may invoke rights of due process."

Additional, other legal questions not discussed in this report pertain to takings under the fifth amendment and disclosure of confidential business information by agencies of the United States pursuant to a Freedom of Information Act request.

Finally, the CWC contains two provisions which infringe upon the Senate's Constitutional responsibilities to consider treaties. First, paragraph 3 of Article XV provides that:

> 3. Amendments shall enter into force for all States Parties 30 days after deposit of the instruments of ratification or acceptance by all the States Parties referred to under subparagraph (b) below:
>
> (a) When adopted by the Amendment Conference by a positive vote of all States Parties with no State Party casting a negative vote; and
>
> (b) Ratified or accepted by all those States Parties casting a positive vote at the Amendment Conference.

We concur with the concerns of the Senate Select Committee on Intelligence on this issue. It would be possible, according to Article XV, for an amendment to the CWC to be adopted without that amendment being submitted to the Senate for advice and consent. Moreover, this provision could allow for the adoption of an amendment over the objections of the Senate if the U.S. were to abstain or not vote when the matter was decided in the Amendment Conference.

Second, Article XXII states:

> The Articles of this Convention shall not be subject to reservations. The Annexes of this Convention shall not be subject to reservations incompatible with its object and purpose.

This provision is directly at odds with the right of the Senate to ratify treaties subject to understandings and reservations regarding specific treaty provisions.

Enforceability

Article XII sets forth general measures that may be taken to address noncompliance, including the possibility of restricting or suspending a State Party's rights and privileges, recommending sanctions, or bringing the issue before the United Nations. The question of penalties for misbehavior was addressed late in the negotiations over the CWC. The CWC's lack of specificity regarding both what sanctions would be appropriate and how sanctions would be applied is indicative of the lack of consensus that existed in Conference on Disarmament. The Convention is not specific about sanctions that could be imposed against violators. While minor violations would be handled within the Executive Committee of the Organization for the Prohibition of Chemical Weapons, in the instance of more serious violations, the Conference of States Parties "may recommend" unspecified collective measures. The U.N. General Assembly and the Security Council would consider violations of "particular gravity."

Supporters of the Convention argue that this lack of specificity gives a degree of flexibility and raises a potential violator's uncertainty about penalties. We cannot see the logic in this. The CWC's enforcement sanctions are too vague to serve as a deterrent. Moreover, the lack of specificity undermine the value of the CWC in creating an international norm. If the experience with Iraq—a clear

instance of the use of poison gas in war—suggests anything, it is that international opprobrium will be impossible to obtain under most circumstances. In this instance, five days of debate in an international conference convened at the initiative of the U.S. in January 1989 to condemn Iraq's use of chemical weapons during its war with Iran yielded a final document that did not even mention Iraq by name. Unlike the unambiguous evidence of Iraqi use of chemical agents against Iran, many cases of noncompliance with the CWC should be expected to yield no "smoking gun."

E. BUDGETARY IMPACT

U.S. Government Costs

The total cost of the CWC to the United States has yet to be fully evaluated, but consists of direct and indirect costs. According to a June 1992 study concluded by the Institute for Defense Analyses, CWC implementation costs to the U.S. Government will exceed $200 million annually over a 15-year period.

A sizeable percentage of this projection derives from the obligation of each member state, pursuant to Article VIII of the Convention, to pay for the OPCW's activities "in accordance with the United Nations scale of assessment." As a practical matter, this means the U.S. will shoulder one quarter of the costs of implementation and verification of the CWC should it elect to ratify the Convention. On April 19, 1996, Secretary of State Warren Christopher responded to a question by the Chairman stating that "the Administration anticipates that the U.S. assessment for the OPCW for FY97 will be $24.935 million."

The current budgetary assumptions of the OPCW indicate a total operating cost of between $100 and $200 million, though this figure is subject to cost growth in such events as non-implementation of the BDA, ratification of the CWC by states possessing both chemical weapons and large inspectable territories, absence of the availability of "dedicated airlift," and continued rent increases on the OPCW headquarters at The Hague. In sum, the assessed cost to the U.S. are substantial, open-ended, and may ultimately exceed $50 million per year.

Beyond the U.S. assessment for the OPCW, a cost estimate prepared by David Evans of Analytic Services, Inc., determines that "the Department of Defense has planned approximately $50 million annually for the [Armed] services to comply with the CWC. In addition, the U.S. spends approximately $10 million annually on research, development, test, and evaluation of equipment and procedures to support the implementation of the CWC."

To this must be added the salaries and expenses associated with personnel in the Department of State, ACDA, the Department of Commerce, Department of Defense, the Intelligence Community, and various law enforcement agencies with CWC responsibilities. Clearly this figure will be difficult to track.

The following table identifies those costs that are estimable:

FINANCIAL COSTS OF CWC IMPLEMENTATION TO THE UNITED STATES—ANNUAL COSTS TO U.S. GOVERNMENT: $185,700,000–$210,700,000

U.S. Assessment to the Organization for the Prohibition of Chemical Weapons [1] ...	$25,000,000–50,000,000.
U.S. Mandatory Contributions Under Article X of the CWC	Undetermined.
U.S. National Authority Costs	$9,500,000 [2].
Treaty Implementation Costs [3]:	
Army	$33,500,000.
Navy	$4,700,000.
Air Force	$100,000.
On-Site Inspection Agency	$45,900,000.
Defense Nuclear Agency (R&D)	$12,000,000.
Assistance to Russia For Chemical Demilitarization	$55,000,000 [4].

[1] The U.S. will pay 24.96% of the OPCW's Total Operating Expenses. Total expenses are estimated to range between $100–$200 million per year.

[2] Based on ACDA's FY96–97 Authorization Request, adjusted to account for funds contributed as assessment to the Preparatory Commission of the OPCW.

[3] Based on March 1994 GAO Study Projections for Fiscal Years 1994–99.

[4] Based on March 1994 GAO Study and March 1994 DoD testimony indicating that the U.S. is prepared to provide $300 million or more over 8 years to help build a pilot destruction plant.

Cost to Industry

The cost of filling out forms

It is difficult—if not impossible—to predict the costs posed by the CWC to industry. However, based upon industry responses, it is possible to establish a range of costs associated with filling out the additional government forms that will be required if the Senate ratifies the CWC. Some companies conducted comprehensive internal reviews of their own based upon the instruction manual and draft regulations compiled by the Department of Commerce. For the sake of confidentiality, we will not identify specific companies here, but will simply report their findings. Cost estimates associated with the reporting burden ranged from $1,500/$2,000 for two small companies producing DOC's, to $250,000 estimated by a large, diversified company. Responses falling within that range included: $8,000; $10,000—$20,000; $20,000; $70,000; and $50,000—$100,000. If the average cost to a company for filling out CWC forms were but $20,000, and only 3,000 companies were so affected, the total cost to the economy would still approximate $60 million per year. If 8,000 companies are affected, the cost would equal $160 million per year.

Clearly, the cost to some businesses will be less than $20,000 annually, but for many others it will be far greater. Moreover, we expect more than 3,000, but fewer than 8,000, companies to be affected by this treaty. Without precise figures, it is impossible to estimate.

The cost of hosting routine inspections

ACDA informed the Senate Select Committee on Intelligence in September, 1994, that routine inspection costs for 100 Schedule 1 and 2 facilities would approximate $10,000 per inspection, $5,000 per inspection of 200 Schedule 3 facilities, and $2,000 per inspection of 6,000 DOC plants. Routine inspections of Schedule 3 and DOC plants are limited, however, to no more than 20 combined. ACDA further estimated:

ACDA's rough estimate is that initially U.S. industry will receive 53 inspections per year (40 at Schedule 1 and 2 sites, 13 at Schedule 3 sites) * * * There will be no inspections of "other chemical production facilities" [DOCs] until the fourth year after entry into force, when there could be up to 20 inspections per year of these facilities and Schedule 3 facilities combined.

While we have questions about these figures, ACDA did state that this is "a very rough estimate." Accordingly, one might derive the following formula for inspections. [(40 x $10,000) + (13 x $5,000) + (7 x $2,000)] = $479,000 per year.

If, however, the OPCW inspects every Schedule 1 and 2 facility every year, and the costs are closer to $20,000, with costs for Schedule 3 and DOC plants closer to $10,000, with a reduced number of inspectable sites (40 Schedule 1 and 2 plants and 100 Schedule 3 plants), the following would be the case: [(40 x $20,000) + (20 x $10,000)] = $1 million.

In general, we believe that ACDA: (1) underestimates the number of U.S. businesses that will be affected; and (2) underestimates the cost to a company posed by a routine inspection. Only time will tell just how expensive this provision of the CWC will be.

The cost of challenge inspections

During administration briefings held for Senate staff in August, 1996, the administration stated that it expected no more than 2 challenge inspections per year to be mounted against the United States. If this is the case, then based upon an April 1993 letter to the Congressional Office of Technology Assessment from the Office of the Secretary of Defense (which put challenge inspections costs at between $200,000 and $500,000), we estimate that no more than $1 million would be expended per year by industry to comply with this provision of the CWC. In cases where a challenge inspection were directed against a government facility, clearly there would be no cost to industry at all. However, the OPCW is planning for both Russia and one other chemical weapons possessor state to ratify the treaty. If this does not occur, significant resources will be available for the conduct of additional challenge and routine inspections.

ANNUAL COSTS TO INDUSTRY: UNDETERMINED

Costs Associated With Data Reporting Requirements	Unestimated [1].
Costs Associated With Challenge Inspections	$200,000—$500,000 per inspection [2] (c. $1 million).
Costs Associated With Annual Routine Inspections	$10,000—$20,000 per inspection [3] (c. $1 million).
Costs Associated With Plant Closure/Shutdown During Inspections	Unestimated
Costs Associated With Disclosure of Confidential Business Information	Unestimated (Congressional Office of Technology Assessment determined that the U.S. chemical industry loses between $3-6 billion per year in counterfeited chemicals).

ANNUAL COSTS TO INDUSTRY: UNDETERMINED—Continued

U.S. Fines for Noncompliance	$50,000 per violation for actions involving Schedule 1 or 2 chemicals; $5,000 per failure to submit documents and records; $25,000 per violation in doing on-site inspection.

[1] February 26, 1993 CMA Response to Congressional Office of Technology Assessment Questionnaire indicated that the cost to U.S. industry in complying with U.S. environmental regulations exceeded $4,900,000,000 annually. The CWC will require more information from more companies than current regulations.

[2] Office of the Secretary of Defense, letter to the Congressional Office of Technology Assessment, April 1993. Estimates of the upcoming Russian Mutual Reciprocal Inspection at the Y12 plant at Savannah River are estimated to reach $500,000. Costs for hosting CWC inspections at the high explosives applications facility located at Lawrence Livermore National Laboratory have been estimated at $350,000 to $400,000 (with $150,000 in non-recurring costs).

[3] Conference on Disarmament, ''Report on a United States National Trial Inspection Exercise,'' document No. CD/922, June 22, 1989, p. 13. According to a March 1994 GAO Study, the CMA estimates that costs associated with inspections will total roughly $20 million per annum.

F. THE CHEMICAL WEAPONS CONVENTION

On April 25, 1996, the Chairman offered a Resolution of Ratification for the Chemical Weapons Convention that addressed many of the concerns raised in this report. The following is the speech he gave in introducing the Chairman's Mark:

> Mr. HELMS. This afternoon the Committee fulfills its obligation as required by the unanimous consent agreement entered into on Pearl Harbor Day, December 7, 1995, to consider the resolution of ratification for the Chemical Weapons Convention (CWC).
>
> In recent months I have presided over three hearings of this Committee dedicated to examining the Chemical Weapons Convention. We heard testimony from the Secretary of State, the Secretary or Defense, and a number of experts on arms control. While I intend no disrespect to the distinguished Administration witnesses, none of the testimony convinced me that the Convention—as submitted to the Senate—serves the national security interests of the United States. In fact, many of the experts who appeared before this Committee questioned the Convention's verifiability and its impact upon industry and business in the United States. I have circulated for every Senator's consideration brief excerpts from some of the testimony critical of this Convention.
>
> I have stated before that we all agree that a verifiable treaty, accomplishing *real* reductions in these abhorrent weapons, will clearly be in the national security interests of the United States. However, I do not believe that the treaty submitted to the Senate is verifiable. Nor will it reduce the arsenals of terrorist countries and other nations hostile to the United States. Several countries identified by our government as possessing chemical weapons have not even signed the Convention, let alone ratified it. Yet those countries—Libya, Syria, Iraq, North Korea—are the countries most likely to use chemical weapons against America or our allies.
>
> Moreover, not one country outside of Europe that has ever had an offensive chemical weapons program has ratified this Convention, with the exception of Japan. Not one.

Neither Communist China nor Iran, for example, have ratified.

Furthermore, Russia—the country that possesses the largest and most sophisticated chemical weapons arsenal in the world—has signaled that it has no intention of abiding by its commitments to eliminate its chemical weapons stockpile, despite our bilateral agreement to get rid of these terrible weapons that we entered into 6 years ago. There has not been one iota of progress over the last 6 years in persuading the Russians to implement their agreement. To the contrary, Russia consistently has refused to come clean about the true size of its chemical weapons stockpile, and about the status of its binary chemical weapons program. This, it seems to me, is an ominous sign of things to come in terms of even the slightest show of good faith regarding Russia's willingness to eliminate its chemical weapons capabilities.

With respect to verifiability, even the senior most administration officials have conceded that the Convention submitted to the Senate is not verifiable. The then-Director of Central Intelligence, James Woolsey, declared in testimony before this committee on June 23, 1994, that "the chemical weapons problem is so difficult from an intelligence perspective, that I cannot state that we have high confidence in our ability to detect noncompliance, especially on a small scale." Based on what I have learned in recent months, this judgement is every bit as accurate today as it was in 1994, and every bit as troubling.

I was equally concerned to learn recently that the Intelligence Community has determined that not one country that is pursuing chemical weapons—with the exception of the United States and its allies—can be expected to abide by the treaty.

In view of these serious concerns with the Convention, I believe that the Senate should consent to ratification only with the strictest possible conditions, ensuring that we are party to a verifiable treaty that is binding on those nations most likely to threaten our national security. This resolution of ratification addresses a number of key concerns:

Now, as I have already said, the CWC must be verifiable. I, for one, believe it to be a misleading and dangerous precedent for the United States to become party to an unverifiable national security treaty. Verifiability should be upheld as a cornerstone of U.S. national security, and we should not—if I may be allowed to recall a quote from the testimony of Douglas Feith, Deputy Assistant Secretary of Defense for Negotiations Policy during the Reagan administration—act like the Groucho Marx character in the movie who said, "Those, sir, are my principles, and if you do not like those, I have others."

Accordingly, this resolution contains conditions on monitoring, verification, and noncompliance which will require the President to certify to the Congress that the Conven-

tion is verifiable before moving ahead with its implementation.

Second, the CWC must accomplish real reductions in the chemical weapons arsenals of those countries of greatest concern to the United States. This resolution contains key provisions which will require the President to secure agreement from Russia, Communist China, Iraq, Iran, Syria, North Korea, and other states with chemical arsenals, that they, too, will observe and be bound by this global ban on chemical weapons, prior to the deposit of the United States instrument of ratification.

Third, this resolution will ensure that we learn from our experience with the United Nations, and that, in creating a new international bureaucracy to verify the Convention, we do not agree to disproportionate cost assessments, burgeoning administrative overhead, waste, corruption, nepotism, and the compromise of U.S.-provided intelligence. There are specific conditions in the resolution to establish an office of an independent inspector general, create intelligence- and cost-sharing arrangements, and ensure that the United States does not pay disproportionately for this treaty.

Without a provision to limit U.S. assessments to the Organization for the Prohibition of Chemical Weapons (OPCW), the United States will end up paying 25 percent of the annual costs of the Organization. That should be compared to Russia's 5.7 percent. This provision will ensure that our contributions to the OPCW take into account the fact that the U.S. has already agreed to foot the bill for verifying and helping destroy Russia's chemical weapons arsenal.

Finally, this resolution will ensure that we do not fall into the idealistic American response of complacency, as seems so often to be the case when the Senate concludes a treaty banning a whole class of weapons. If we conveniently assume that this treaty will solve all of our chemical weapons problems, we may fall victim to the inevitable effect of reducing support for the entire range of programs necessary to deter attack by chemical weapons, and to maintain our troops capability to defend against chemical weapons and other threats. This resolution requires the United States to maintain robust chemical warfare defenses, to re-evaluate our national deterrence doctrine, and to permit commanders in the field to use riot control agents to protect the lives of U.S. servicemen and innocents.

Each and every provision of this resolution of ratification is essential to ensuring that the Chemical Weapons Convention enhances, rather than reduces, our national security. I urge my colleagues to consent to ratification only if all of the aforementioned concerns have been adequately addressed.

Resolved (two-thirds of the Senators present concurring therein), That (a) the Senate advise and consent to the ratification of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, signed at Paris on January 13, 1993, including the following annexes, all such documents being integral parts of and collectively referred to in this resolution as the "Convention" (contained in Treaty Document 10321), subject to the conditions of subsection (b), the understandings of subsection (c), and the declarations of subsection (d):

(1) The Annex on Chemicals.

(2) The Annex on Implementation and Verification (also known as the "Verification Annex').

(3) The Annex on the Protection of Confidential Information (also known as the "Confidentiality Annex").

(b) CONDITIONS.—The advice and consent of the Senate to the ratification of the Convention is subject to the following conditions, which shall have binding effect under United States law and shall be included in the instrument of ratification of the United States to the Convention:

(1) EFFECT OF ARTICLE XXII.—Article XXII of the Convention shall not apply to the United States.

(2) VIOLATION OF THE PROHIBITION ON USE OF CHEMICAL WEAPONS.—The Convention shall cease to be binding on the Government of the United States with respect to the use of chemical weapons in war in the event that another party to the Convention fails to respect the prohibition on use of chemical weapons laid down in the Convention and uses chemical weapons against the United States or its allies.

(3) LIMITATION ON THE SCALE OF ASSESSMENT.—Notwithstanding any provision of the Convention, the United States shall pay as a total annual assessment pursuant to paragraph 7 of Article VIII not more than the percentage of the annual costs of the Organization for the Prohibition of Chemical Weapons (in this resolution referred to as the "Organization") assessed to any other party to the Convention, or $15,000,000, whichever is lesser.

(4) FINANCIAL CONTRIBUTIONS.—(A) Notwithstanding any provision of the Convention, no funds may be drawn from the Treasury of the United States for payments or assistance (including the transfer of in-kind items) under paragraph 16 of Article IV, paragraph 19 of Article V, paragraph 7 of Article VIII, paragraph 23 of Article IX, Article X, or any other provision of the Convention, without specific statutory authorization and appropriation.

(B) None of the funds appropriated or otherwise made available by law for the purposes of implementing paragraph 4 of Article VII of the Convention may be made available to the United States Arms Control and Disarmament Agency.

(5) ESTABLISHMENT OF AN INSPECTOR GENERAL.—(A) Before the deposit of the instrument of ratification of the United States to the Convention (in this resolution referred to as the

"United States instrument of ratification"), the current internal audit office of the Preparatory Commission has been expanded into an independent Office of Inspector General whose functions will be transferred to the Organization upon its establishment. The Office of the Inspector General shall be obligated to protect confidential information pursuant to the obligations of the Confidentiality Annex. The Office of the Inspector General shall—

(i) make investigations and reports relating to all programs of the Organization;

(ii) undertake both management and financial audits, including —

(I) an annual assessment verifying that classified and confidential information is stored and handled securely pursuant to the general obligations set forth in Article VIII and in accordance with all provisions of the Annex on the Protection of Confidential Information; and

(II) an annual assessment of laboratories established pursuant to Paragraph 55 of Part II of the Verification Annex to ensure the Director General is carrying out his functions pursuant to Paragraph 56 of Part II of the Verification Annex;

(iii) undertake performance evaluations annually to ensure the Organization has complied to the extent practicable with the recommendations of the Inspector General;

(iv) have access to all records relating to the programs and operations of the Organization;

(v) have direct and prompt access to any official of the Organization; and

(vi) be required to protect the identity of, and prevent reprisals against, all complainants.

(B) The Organization shall ensure, to the extent practicable, compliance with recommendations of the independent Inspector General, and shall ensure that annual and other relevant reports by the Inspector General are made available to all member states pursuant to the requirements established in the Confidentiality Annex.

(6) COST-SHARING ARRANGEMENTS.—(A) Prior to the deposit of the United States instrument of ratification, and annually thereafter, the President shall submit a report to Congress identifying all cost-sharing arrangements with the Organization.

(B) The United States shall not undertake any research or development expenditures for the purposes of refining or improving the Organization's regime for verification of compliance under the Convention, including the training of inspectors and the provision of detection equipment and on-site analysis sampling and analysis techniques, without first having concluded and submitted to the Congress a cost-sharing arrangement with the Organization.

(7) INTELLIGENCE SHARING AND SAFEGUARDS.—

(A) PROVISION OF INTELLIGENCE INFORMATION TO THE ORGANIZATION.—(i) No United States intelligence information may be provided to the Organization or to any officials or employees thereof, unless the President certifies to the appropriate committees of Congress that the Director of Central Intelligence (in this paragraph referred to as the "DCI"), in consultation with the Secretary of State and the Secretary of Defense, has established and implemented requirements which have been formally agreed to and implemented by the Organization for protecting intelligence sources and methods as a condition for the provision of United States intelligence information to the Organization. Those requirements shall include, but not be limited to—

(I) the adoption by the Organization of formal security violation investigation procedures and security clearance background investigation procedures certified by the DCI as comparable to United States procedures;

(II) the agreement by the Organization to protect United States-provided intelligence information in a manner certified by the DCI as comparable to protections maintained by the United States Government of such information;

(III) the agreement by the Organization to immediately notify the United States Government of any unauthorized disclosure of United States-provided intelligence, and to permit the full participation of United States law enforcement personnel in the investigation of such disclosure;

(IV) prohibitions on access to United States-provided intelligence information by nationals of countries not otherwise eligible for the receipt of such information;

(V) prohibitions on access to United States-provided intelligence information by the government of any country designated by the Secretary of State as a state supporter of terrorism;

(VI) prohibitions on access to United States-provided intelligence information by any government not eligible for the direct provision of such information by the United States through existing bilateral intelligence-sharing agreements; and

(VII) other measures which shall protect intelligence sources and methods from unauthorized disclosure in accordance with section 103(c)(5) of the National Security Act of 1947 (50 U.S.C. 403–3(c)(5)).

(ii) Subparagraph (A) may be waived upon written certification by the President to the appropriate committees of Congress that providing such information to the Organization, or to any officials or employees thereof, is in the vital national security interests of the United States and that all possible measures protecting such information have been taken, except that such waiver must be made for each instance such information is provided, or for each such document provided.

(B) PERIODIC AND SPECIAL REPORTS.—(i) The President shall report periodically, but not less frequently than quarterly, to the Committee on Foreign Relations and the Select Committee on Intelligence of the Senate and the Committee on International Relations and the Permanent Select Committee on Intelligence of the House of Representatives on the types and volume of intelligence provided to the Organization and the purposes for which it was provided during the period covered by the report. The President shall also report to the Select Committee on Intelligence of the Senate and the Permanent Select Committee on Intelligence of the House of Representatives within 15 days after it has become known to the United States Government regarding any unauthorized disclosure of intelligence provided by the United States to the Organization.

(ii) The requirement for periodic reports under the first sentence of subparagraph (A) shall not apply to the provision of intelligence that is provided only to, and for the use of, appropriately-cleared United States Government personnel serving with the Organization.

(C) DELEGATION OF DUTIES.—The President may not delegate or assign the duties of the President under this paragraph.

(D) RELATIONSHIP TO EXISTING LAW.—Nothing in this paragraph may be construed to—

(i) impair or otherwise affect the authority of the Director of Central Intelligence to protect intelligence sources and methods from unauthorized disclosure pursuant to section 103(c)(5) of the National Security Act of 1947(50 U.S.C. 403–3(c)(5)); or

(ii) supersede or otherwise affect the provisions of title V of the National Security Act of 1947 (50 U.S.C. 413 et seq.).

(8) COMPLETION OF THE WORK OF THE PREPARATORY COMMISSION.—Prior to the deposit of the United States instrument of ratification, the President shall certify to the Congress that the Preparatory Commission for the Organization has completed, to the satisfaction of the United States, the formulation of detailed guidelines and procedures for all outstanding issues identified as "necessary preparations for the effective implementation of the Convention * * * and for preparing for the first session of the Conference of States Parties * * *" by the Executive Secretary of the Preparatory Commission at its Thirteenth Session in document PCXIII/6.

(9) AMENDMENTS TO THE CONVENTION.—(A) A United States representative will be present at all Amendment Conferences and will cast a vote, either affirmative or negative, on all proposed amendments made at such conferences.

(B) The President shall submit to the Senate for its advice and consent to ratification under Article II, Section 2, Clause 2 of the Constitution of the United States any amendment to the Convention adopted by an Amendment Conference.

(10) PLAN FOR DESTRUCTION OF CHEMICAL WEAPONS.—(A) In accordance with the rights of the United States to develop a

plan of destruction under the Convention and the requirements of Public Law 99145, the Secretary of Defense shall proceed expeditiously with the destruction of the existing stockpile of lethal unitary chemical agents and munitions and shall complete such destruction within the Convention-allowed timeframe and prior to the elimination of the binary chemical agent stockpile and binary munitions. Prior to initiating the destruction of the final remaining 500 tons of binary chemical agents and their associated munitions, and not later than nine years after the date of entry into force of the Convention, the President shall certify to the Congress that all states possessing chemical weapons have signed and ratified the Convention, and that no state, other than a state which has declared chemical weapons under the Convention and is implementing a plan for their destruction pursuant to the Convention, possesses chemical weapons. If the President determines that a state possessing chemical weapons has not signed and ratified the Convention, or that a party to the Convention possesses nondeclared chemical weapons, then the President shall—

(i) notify the Congress of his findings within 30 days of having made such a determination;

(ii) direct the Secretary of Defense to defer for 5 years the destruction of the remaining 500 tons of the stockpile of binary agent and transmit written notice to the Congress of any such deferral within 30 days after the date on which the notification under clause (i) is made;

(iii) seek a Senate resolution of support of continued adherence to the Convention, notwithstanding the determination that states possessing chemical weapons remain nonparties to the Convention nine years after the Convention's entry into force, or that a party to the Convention possesses undeclared stocks of chemical weapons; and

(iv) secure agreement from the Organization that the destruction timeframe for the remaining 500 tons of binary agent shall be extended by five years, in accordance with the provisions of the Convention.

(B) For purposes of this resolution, the term "chemical weapons" has the meaning given the term in Article I(1) of the Convention.

(11) RUSSIAN ELIMINATION OF CHEMICAL WEAPONS.—Prior to the deposit of the United States instrument of ratification, the President shall certify to the Congress that—

(A) Russia is making reasonable progress in the implementation of the Agreement between the United States of America and the Union of Soviet Socialist Republics on Destruction and Nonproduction of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons, signed on June 1, 1990 (in this resolution referred to as the "1990 Bilateral Destruction Agreement');

(B) the United States and Russia have resolved, to the satisfaction of the United States, outstanding compliance issues under the Memorandum of Understanding Between the Government of the United States of America and the

Government of the Union of Soviet Socialist Republics Regarding a Bilateral Verification Experiment and Data Exchange Related to Prohibition on Chemical Weapons, signed at Jackson Hole, Wyoming, on September 23, 1989, also known as the "1989 Wyoming Memorandum of Understanding," and the 1990 Bilateral Destruction Agreement;

(C) Russia has deposited the Russian instrument of ratification for the Convention and is in compliance with its obligations under the Convention; and

(D) Russia is committed to forgoing any chemical weapons capability, chemical weapons modernization program, or any other activity contrary to the object and purpose of the Convention.

(12) CHEMICAL WEAPONS IN COUNTRIES OTHER THAN RUSSIA.—Prior to the deposit of the United States instrument of ratification, the President, in consultation with the Director of Central Intelligence, shall certify to the Congress that countries which have been determined to have offensive chemical weapons programs, including Iran, Iraq, Syria, Libya, the Democratic People's Republic of Korea, and all other countries determined to be state sponsors of international terrorism, have ratified or otherwise acceded to the Convention.

(13) CRITERIA FOR UNITED STATES ASSISTANCE TO RUSSIA.—Notwithstanding any other provision of law, United States assistance to Russia for the purposes of facilitating the transport, storage, safeguarding, and elimination of chemical weapons and their delivery vehicles, for preventing the proliferation of chemical weapons, chemical weapons components and technology, and chemical weapons-related technology and expertise, or for the planning, design, and construction of a chemical weapons destruction facility, may not be provided unless the President certifies to the Congress, on an annual basis, that—

(A) the matters described in paragraph (11) of this resolution are satisfied;

(B) Russia has fully and accurately declared, pursuant to Article III of the Convention, all information regarding its unitary and binary chemical weapons, chemical weapons production facilities, other facilities associated with the development of chemical weapons, and riot control agents; and

(C) Russia is in compliance with its obligations under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, done at Washington, London, and Moscow on April 10, 1972 (commonly referred to as the "Biological Weapons Convention').

(14) OTHER DOCUMENTS.—(A) The documents described in subparagraph (B) have the same force and effect as the provisions of the Convention. The United States shall regard any action inconsistent with an obligation under those documents as equivalent under international law to an action inconsistent with the Convention.

(B) The documents referred to in subparagraph (A) are—

(i) the Resolution Establishing the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons;

(ii) the Text on the Establishment of a Preparatory Commission;

(iii) the Annex 1 on Privileges, Immunities and Practical Arrangements in Connection With the Hosting of the Preparatory Commission;

(iv) the Annex 2 on Privileges, Immunities and Practical Arrangements to be Laid Down in the Headquarters Agreement; and

(v) the Annex 3 on Information Submitted and Commitments Undertaken by the Netherlands and By the City of The Hague.

(15) THE AUSTRIALIA GROUP.—Prior to the deposit of the United States instrument of ratification, the President shall—

(A) certify to the Congress that the international export control measures afforded by the informal forum of States known as the "Australia Group" are compatible with the purpose and objectives of the Convention and shall be maintained indefinitely, and

(B) certify annually to the Congress that—

(i) the Australia Group continues to maintain an equivalent or more comprehensive level of control over the export of toxic chemicals and their precursors, dual-use processing equipment, human, animal, and plant pathogens and toxins with potential biological weapons application, and dual-use biological equipment, as that afforded by the Australia Group as of the date of ratification of the Convention by the United States, and

(ii) the Australia Group remains a viable mechanism for curtailing the spread of chemical and biological weapons.

(16) NEGATIVE SECURITY ASSURANCES.—(A) In forswearing the possession of chemical weapons retaliatory capability under the Convention, the United States understands that deterrence of attack by chemical weapons requires a reevaluation of the negative security assurances extended to non-nuclear-weapon states.

(B) Accordingly, prior to the deposit of the United States instrument of ratification, the President shall submit to the Congress a report setting forth the findings of a detailed review of United States policy on negative security assurances as a deterrence strategy, including a determination of the appropriate nuclear and conventional responses to the use of chemical or biological weapons against the United States military, United States citizens, allies, and third parties.

(C) For purposes of this paragraph—

(i) the term "negative security assurances" means the assurances provided by the United States to non-nuclear-weapon states to forswear the use of certain weapons unless the United States is attacked by that non-nuclear weapon state in alliance with a nuclear weapon state; and

(ii) the term "non-nuclear-weapon states" means states that are not nuclear-weapon states (as defined in Article IX(3) of the Treaty on the Non-Proliferation of Nuclear Weapons (21 UST 492493).

(17) PROTECTION OF ADVANCED BIOTECHNOLOGY.—Prior to the deposit of the United States instrument of ratification, and on January 1 of every year thereafter, the President shall certify to the Committee on Foreign Relations and the Speaker of the House of Representatives that chemical, biotechnology, and pharmaceutical firms in the United States are not being adversely affected by the limitations of the Convention on access to, and production of, those chemicals and toxins listed in Schedule 1 contained in the Annex on Chemicals of the Convention.

(18) MONITORIING AND VERIFICATION OF COMPLIANCE.—(A) The Senate declares that—

(i) the Convention is in the interests of the United States only if all parties to the Convention are in strict compliance with the terms of the Convention as submitted to the Senate for its advice and consent to ratification, such compliance being measured by performance and not by efforts, intentions, or commitments to comply; and

(ii) the Senate expects all parties to the Convention to be in strict compliance with their obligations under the terms of the Convention, as submitted to the Senate for its advice and consent to ratification;

(B) Prior to the deposit of the United States instrument of ratification, and on January 1 of every year thereafter, the President shall certify to the Committee on Foreign Relations of the Senate and the Speaker of the House that the intelligence community (as defined in section 3(4) of the National Security Act of 1947) has the capability to monitor with a high degree of confidence the compliance of all parties to the Convention.

(C) Given its concern about the low level of confidence of the intelligence community in the verifiability of compliance with the Convention, the President (or his designee) shall offer regular briefings, not less than four times a year, to the Committee on Foreign Relations of the Senate and the Committee on International Relations of the House of Representatives on compliance issues related to the Convention. Such briefings shall include a description of all United States efforts in bilateral and multilateral diplomatic channels and forums to resolve compliance issues and shall include a complete description of—

(i) any compliance issues the United States plans to raise at meetings of the Organization, in advance of such meetings;

(ii) any compliance issues raised at meetings of the Organization, within 30 days of each such meeting;

(iii) any determination by the President that a party is in noncompliance with or is otherwise acting in a manner inconsistent with the object or purpose of the Convention, within 30 days of such a determination.

(D) The Secretary of State shall submit annually on January 1 to the Committee on Foreign Relations of the Senate and the Committee on International Relations of the House of Representatives a full and complete classified and unclassified report setting forth—

(i) a certification of those countries determined to be in compliance with the Convention, on a country-by-country basis;

(ii) for those countries not certified pursuant to clause (i), an identification and assessment of all compliance issues arising with regard to the adherence of the country to its obligations under the Convention;

(iii) the steps the United States has taken —

(I) to initiate challenge inspections of the noncompliant party with the objective of demonstrating to the international community the act of noncompliance;

(II) to call attention publicly to the activity in question; and

(III) to seek on an urgent basis a meeting at the highest diplomatic level with the noncompliant party with the objective of bringing the noncompliant party into compliance;

(iv) a determination of the military significance and broader security risks arising from any compliance issue identified pursuant to clause (ii); and

(v) a detailed assessment of the responses of the noncompliant party in question to actions undertaken by the United States pursuant to clause (iii).

(E) Prior to the deposit of the United States instrument of ratification, and on January 1 of every year thereafter, the Director of Central Intelligence shall submit to the Committees on Foreign Relations, Armed Services, and the Select Committee on Intelligence of the Senate and to the Committees on International Relations, National Security, and Permanent Select Committee of the House of Representatives, a full and complete classified and unclassified report regarding—

(i) the status of chemical weapons development, production, stockpiling, and use, within the meanings of the Convention, on a country-by-country basis;

(ii) the extent of trade in chemicals capable of serving as a chemical weapon, or as a precursor for the production of chemical weapons, on a country-by-country basis;

(iii) the monitoring responsibilities, practices, and strategies of the intelligence community and a determination of the level of confidence of the intelligence community (as defined in section 3(4) of the National Security Act of 1947) with respect to each specific monitoring task undertaken, including an assessment by the intelligence community of the national aggregate data provided by parties to the Organization, on a country-by-country basis;

(iv) the identification of chemical weapons development, production, stockpiling, or use, within the meanings of the Convention, by subnational groups, including terrorist and paramilitary organizations;

(v) a detailed and specific identification of all United States resources devoted to monitoring the Convention, including information on all expenditures associated with the monitoring of the Convention; and

(vi) an identification of the priorities of the executive branch of Government for the development of new resources relating to detection and monitoring capabilities with respect to chemical and biological weapons.

(19) PRESERVATION OF ROBUST CHEMICAL DEFENSES.—(A) The Senate declares that—

(i) ratification of the Convention of the United States in no way diminishes the necessity for preserving and further developing robust chemical and biological defenses; and

(ii) the United States Armed Forces are inadequately trained for chemical and biological defenses, and that this lack of readiness stems from a de-emphasis of chemical and biological defenses within the executive branch of Government and the United States Armed Forces.

(B) Notwithstanding any provision of law, the Secretary of Defense shall assign responsibility for overall coordination and integration of the chemical and biological warfare defense program and the chemical and biological medical defense program to a single office within the Office of the Secretary of Defense.

(C) The Secretary of Defense shall designate the Army as the executive agent for the Department of Defense to coordinate and integrate research, development, test, evaluation, and acquisition, requirements of the military departments for chemical and biological warfare defense programs of the Department of Defense, and shall take those actions necessary to ensure that the United States Army Chemical School remains under the command of a general officer of the United States Army.

(D) Given its concerns about the present state of chemical and biological defense readiness and training, it is the sense of the Senate that—

(i) the transfer, consolidation, and reorganization of the U.S. Army Chemical School from Fort McClellan to Fort Leonard Wood, or any other location, should not disrupt or diminish the training and readiness of the United States Armed Forces to fight in a chemical-biological warfare environment;

(ii) the Chemical School to be relocated at Fort Leonard Wood, or any other location, should have the same level of smoke training capability as that previously available at Fort McClellan; and

(iii) the Chemical School, after being relocated at Fort Leonard Wood, or any other location, should possess a Chemical Decontamination Training Facility, established for live agent training, which is capable of the same level of operations as that permitted at Fort McClellan on the date of the deposit of the United States instrument of ratification.

(E) Thirty days prior to the deposit of the United States instrument of ratification, and on January 1 every year thereafter, the President shall submit a report to the Committees on

Foreign Relations, Armed Services, and Appropriations of the Senate and the Committees on International Relations, National Security, and Appropriations of the House of Representatives on previous, current, and planned chemical and biological weapons defense activities. Each report shall include the following information for each of the previous three fiscal years and for the next three fiscal years:

(i) An identification of priorities of the executive branch of Government in the development of both active and passive chemical and biological defenses.

(ii) A detailed summary of all budget activities associated with the research, development, testing, and evaluation of chemical and biological defense programs.

(iii) A detailed summary of expenditures on research, development, testing, and evaluation, and procurement of chemical and biological defenses by fiscal years defense programs, department, and agency.

(iv) A detailed assessment of current and projected vaccine production capabilities and vaccine stocks, including progress in researching and developing a multibiological agent vaccine.

(v) A detailed assessment of procedures and capabilities necessary to protect and decontaminate infrastructure to reinforce United States power-projection forces, including progress in developing a nonaqueous chemical decontamination capability.

(vi) The progress in developing long-range standoff detection and identification capabilities and other battlefield surveillance capabilities for biological and chemical weapons, including progress on developing a multi-chemical agent detector, unmanned aerial vehicles, and unmanned ground sensors.

(vii) An assessment of the training and readiness of the United States Armed Forces to operate in a chemically or biologically contaminated environment and actions taken to sustain training and readiness.

(viii) The progress in resolving issues relating to the protection of United States population centers from chemical and biological attack, including plans for inoculation of populations, emergency response, and progress made in developing and deploying effective cruise missile defenses and a national ballistic missile defense.

(ix) The progress in incorporating chemical and biological considerations into training and planning simulations, models, and wargames and conclusions drawn from those exercises.

(x) The progress in developing and implementing joint operational biological defense and chemical defense doctrines.

(20) NONCOMPLIANCE.—If the President determines that a party to the Convention is acting in a manner inconsistent with the object or purpose of the Convention, is maintaining a chemical weapons capability, or is in violation of the Conven-

tion in any other manner so as to threaten the national security interests of the United States, then the President shall—

(A) consult with, and promptly submit to, the Senate a report detailing the effect of such actions;

(B) seek on an urgent basis a challenge inspection of the facilities of the noncompliant party in accordance with the provisions of the Convention with the objective of demonstrating to the international community the act of noncompliance;

(C) seek on an urgent basis a meeting at the highest diplomatic level with the noncompliant party with the objective of bringing the noncompliant party into compliance;

(D) implement prohibitions and sanctions against the noncompliant party as required by law;

(E) seek on an urgent basis within the Security Council of the United Nations a multilateral imposition of sanctions against the noncompliant party for the purposes of bringing the noncompliant party into compliance; and

(F) in the event that noncompliance persists for a period not longer than one year, promptly seek a Senate resolution of support of continued adherence to the Convention, notwithstanding the changed circumstances affecting the object and purpose of the Convention.

(c) UNDERSTANDINGS.—The advice and consent of the Senate to the ratification of the Convention is subject to the following understandings, which shall be included in the United States instrument of ratification:

(1) PRIMACY OF THE UNITED STATES CONSTITUTION.—Nothing in the Convention requires or authorizes legislation, or other action, by the United States prohibited by the Constitution of the United States, as interpreted by the United States.

(2) FINANCING RUSSIAN IMPLEMENTATION.—The United States understands that in order to be assured of the Russian commitment to a reduction in chemical weapons stockpiles, Russia must maintain a substantial stake in financing the implementation of both the 1990 Bilateral Destruction Agreement, and the Convention. The deposit by Russia of its instrument of ratification for the Convention shall not be contingent upon the United States providing financial guarantees to pay for implementation of commitments by Russia under the 1990 Bilateral Destruction Agreement or the Convention.

(3) DOMESTIC EXPORT CONTROLS.—Nothing in the Convention obligates the United States to accept any modification, change in scope, or reduction in its national export controls. The United States understands that maintenance of domestic restrictions on trade in chemicals and chemical production technology is compatible with the object and purpose of the Convention and solely within the sovereign jurisdiction of the United States.

(4) RIOT CONTROL AGENTS.—(A) Nothing in the Convention diminishes, abridges, or alters the right of the United States to use riot control agents—

(i) under all circumstances not involving international armed conflict; and

(ii) in defensive military modes to save lives in international armed conflicts, as provided for in Executive Order No. 11850 of April 9, 1975.

(B) The United States understands that the use of riot control agents under subparagraph (A)(i) includes the use of such agents in—

(i) peacekeeping operations;

(ii) humanitarian or disaster relief operations;

(iii) non-combatant evacuation operations;

(iv) counter-terrorist operations and the rescue of hostages; and

(v) law enforcement operations and other internal conflicts.

(C) The United States understands that the use of riot control agents under subparagraph (A)(ii) may include the use of such agents—

(i) in areas under direct and distinct United States military control, including the use of such agents for the purposes of controlling rioting or escaping enemy prisoners of war;

(ii) to protect personnel or material from civil disturbances, terrorists, and paramilitary organizations;

(iii) to minimize casualties during rescue missions of downed air crews and passengers, prisoners of war, or hostages; and

(iv) in support of base defense, rear area operations, non-combatant evacuation operations, and operations to protect or recover nuclear weapons.

(D) The United States further understands that herbicides may be used, under regulations applicable to their domestic use, for control of vegetation within United States bases and installations or around their immediate defensive perimeters.

(E) The Secretary of Defense shall take all necessary measures, and prescribe the rules and regulations he deems necessary, to ensure that the national policy of this paragraph shall be observed by the Armed Forces of the United States.

(F) For purposes of this paragraph, the term "riot control agent" has the meaning given the term in Article II(7) of the Convention.

(5) PROTECTION OF CONFIDENTIAL INFORMATION.—The United States understands that the limitation on liability in paragraph (22) of the Confidentiality Annex does not apply to the unauthorized disclosure of national aggregate data and is subject to the enactment of implementing legislation by the United States.

(d) DECLARATIONS.—The advice and consent of the Senate to ratification of the Convention is subject to the following declarations, which express the intent of the Senate:

(1) FURTHER ARMS REDUCTION OBLIGATIONS.—The Senate declares its intention to consider for approval international agreements that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner only pursuant to the treaty

power as set forth in Article II, section 2, clause 2 of the Constitution.

(2) TREATY INTERPRETATION.—The Senate affirms the applicability to all treaties of the constitutionally based principles of treaty interpretation set forth in Condition (1) of the resolution of ratification with respect to the INF Treaty. For purposes of this declaration, the term "INF Treaty" refers to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter Range Missiles, together with the related memorandum of understanding and protocols, approved by the Senate on May 27, 1988.

Hon. TRENT LOTT, Majority Leader,
U.S. Senate, Washington, DC.

DEAR SENATOR LOTT: As you know, the Senate is currently scheduled to take final action on the Chemical Weapons Convention (CWC) on or before September 14. This treaty has been presented as a global, effective and verifiable ban on chemical weapons. As individuals with considerable experience in national security matters, we would all support such a ban. We have, however, concluded that the present Convention is seriously deficient on each of these scores, among others.

The CWC is not *global* since many dangerous nations (for example, Iran, Syria, North Korea, and Libya), have not agreed to join the treaty regime. Russia is among those who *have* signed the Convention, but is unlikely to ratify—especially without a commitment of billions in U.S. aid to pay for the destruction of Russia's vast arsenal. Even then, given our experience with the Kremlin's treaty violations and its repeated refusal to implement the 1990 Bilateral Destruction Agreement on chemical weapons, future CWC violations must be expected.

The CWC is not *effective* because it does not ban or control possession of all chemicals that could be used for lethal weapons purposes. For example, it does not prohibit two chemical agents that were employed with deadly effect in World War I—phosgene and hydrogen cyanide. The reason speaks volumes about this treaty's impractical nature; they are too widely used for commercial purposes to be banned.

The CWC is not *verifiable* as the U.S. intelligence community has repeatedly acknowledged in congressional testimony. Authoritarian regimes can be confident that their violations will be undetectable. Now, some argue that the Treaty's intrusive inspections regime will help us know more than we would otherwise. The relevant test, however, is whether any additional information thus gleaned will translate into convincing evidence of cheating and result in the collective imposition of sanctions or other enforcement measures. In practice, this test is unlikely to be satisfied since governments tend to look the other way at evidence of non-compliance rather than jeopardize a treaty regime.

What the CWC *will* do, however, is quite troubling: It will create a massive new, UN-style international inspection bureaucracy (which will help the total cost of this treaty to U.S. taxpayers

amount to as much as $200 million per year). It will jeopardize U.S. citizens' constitutional rights by requiring the U.S. Government to permit searches without either warrants or probable cause. It will impose a costly and complex regulatory burden on U.S. industry. As many as 8,000 companies across the country may be subjected to new reporting requirements entailing uncompensated annual costs of between thousands to hundreds-of-thousands of dollars per year to comply. Most of these American companies have no idea that they will be affected. And perhaps worst of all, the CWC will undermine the standard of verifiability that has been a key national security principle for the United States.

Under these circumstances, the national security benefits of the Chemical Weapons Convention clearly do not outweigh its considerable costs. Consequently, we respectfully urge you to reject ratification of the CWC unless and until it is made genuinely global, effective and verifiable.

WILLIAM P. CLARK.
CAP WEINBERGER.
DICK CHENEY.
JEAN KIRKPATRICK.
EDWIN MEESE III.

SIGNATORIES ON LETTER TO SENATOR TRENT LOTT REGARDING THE CHEMICAL WEAPONS CONVENTION

Signatures on letter and other former Cabinet Members:

Richard B. Cheney, former Secretary of Defense.

William P. Clark, former National Security Advisor to the President.

Alexander M. Haig, Jr., former Secretary of State (signed on September 10).

John S. Herrington, former Secretary of Energy (signed on September 9).

Jean J. Kirkpatrick, former U.S. Ambassador to the United Nations.

Edwin Meese III, former U.S. Attorney General.

Donald Rumsfeld, former Secretary of Defense (signed on September 10).

Casper Weinberger, former Secretary of Defense.

Additional Signatories (retired military):

General John W. Foss, U.S. Army (Retired), former Commanding General, Training and Doctrine Command.

Vice Admiral William Houser, U.S. Navy (Retired), former Deputy Chief of Naval Operations for Aviation.

General P.X. Kelley, U.S. Marine Corps (Retired), former Commandant of U.S. Marine Corps (signed on September 9).

Lieutenant General Thomas Kelly, U.S. Army (Retired), former Director for Operations, Joint Chiefs of Staff (signed on September 9).

Admiral Wesley McDonald, U.S. Navy (Retired), former Supreme Allied Commander, Atlantic.

Admiral Kinnaird McKee, U.S. Navy (Retired), former Director, Naval Nuclear Propulsion.

General Merrill A. McPeak, U.S. Air Force (Retired), former Chief of Staff, U.S. Air Force.

Lieutenant General T.H. Miller, U.S. Marine Corps (Retired), former Fleet Marine Force Commander/Head, Marine Aviation.

General John L. Piotrowski, U.S. Air Force (Retired), former Member of the Joint Chiefs of Staff as Vice Chief, U.S. Air Force.

General Bernard Schriever, U.S. Air Force (Retired), former Commander, Air Research and Development and Air Force Systems Command.

Vice Admiral Jerry Unruh, U.S. Navy (Retired), former Commander 3rd Fleet (signed on September 10).

Lieutenant General James Williams, U.S. Army (Retired), former Director, Defense Intelligence Agency.

Additional Signatories (non-military):

Elliott Abrams, former Assistant Secretary of State for Latin American Affairs (signed on September 9).

Mark Albrecht, former Executive Secretary, National Space Council.

Kathleen Bailey, former Assistant Director of the Arms Control and Disarmament Agency.

Robert B. Barker, former Assistant to the Secretary of Defense for Nuclear and Chemical Weapon Matters.

Angelo Codevilla, former Senior Fellow, Hoover Institute (signed on September 10).

Henry Cooper, former Director, Strategic Defense Initiative Organization.

J.D. Crouch, former Principal Deputy Assistant Secretary of Defense.

Midge Decter, former President, Committee for the Free World.

Kenneth deGraffenreid, former Senior Director of Intelligence Programs, National Security Council.

Diane Denman, former Co-Chair, U.S. Peace Corps Advisory Council.

Elaine Donnelly, former Commissioner, Presidential Commission on the Assignment of Women in the Armed Services.

David M. Evans, former Senior Advisor to the Congressional Commission on Security and Cooperation in Europe.

Charles Fairbanks, former Deputy Assistant Secretary of State.

Douglas J. Feith, former Deputy Assistant Secretary of Defense.

Rand H. Fishbein, former Professional Staff member, Senate Defense Appropriations Subcommittee.

Frank J. Gaffney, Jr., former Acting Assistant Secretary of Defense.

William R. Graham, former Science Advisor to the President.

E.C. Grayson, former Principal Deputy Assistant Secretary of the Navy.

James T. Hackett, former Acting Director of the Arms Control and Disarmament Agency.

Stefan Halper, former Deputy Assistant Secretary of State (signed on September 10).

Thomas N. Harvey, former National Space Council Staff Officer (signed on September 9).

Charles A. Hamilton, former Deputy Director, Strategic Trade Policy, U.S. Department of Defense.

Amoretta M. Hoeber, former Deputy Under Secretary, U.S. Army.

Charles Horner, former Deputy Assistant Secretary of State for Science and Technology.

Fred Ikle, former Under Secretary of Defense for Policy.

Sven F. Kraemer, former Director for Arms Control, National Security Council.

Charles M. Kupperman, former Special Assistant to the President.

John Lehman, former Secretary of the Navy.

John Lenczowski, former Director for Soviet Affairs, National Security Council.

Bruce Merrifield, former Assistant Secretary for Technology Policy, Department of Commerce.

Taffy Gould McCallum, columnist and free-lance writer.

James C. McCrery, former senior member of the Intelligence Community and Arms Control Negotiator (Standing Consultative Committee).

J. William Middendorf II, former Secretary of the Navy (signed on September 10).

Laurie Mylroie, best-selling author and Mideast expert specializing in Iraqi affairs.

Richard Perle, former Assistant Secretary of Defense.

Norman Podhoretz, former editor, *Commentary* Magazine.

Roger W. Robinson, Jr., former Chief Economist, National Security Council.

Peter W. Rodman, former Deputy Assistant to the President for National Security Affairs and former Director of the Policy Planning Staff, Department of State.

Edward Rowny, former Advisor to the President and Secretary of State for Arms Control.

Carl M. Smith, former Staff Director, Senate Armed Services Committee.

Jacqueline Tillman, former Staff member, National Security Council.

Michelle Van Cleave, former Associate Director, Office of Science and Technology.

William Van Cleave, former Senior Defense Advisor and Defense Policy Coordinator to the President.

Malcolm Wallop, former United States Senator.

Deborah L. Wince-Smith, former Assistant Secretary for Technology Policy, Department of Commerce.

Curtin Winsor, Jr., former U.S, Ambassador to Costa Rica.

Dov S. Zakheim, former Deputy Under Secretary of Defense.

ANNANDALE, VA, *September 9, 1996.*

Hon. TRENT LOTT,
Majority Leader,
U.S. Senate, Washington, DC.

DEAR SENATOR LOTT: As you weigh the benefits and costs of the Chemical Weapons Convention (CWC) I would like to offer some insight gained during my 28 years at every level of Military Intelligence and my subsequent ten years in competitive intelligence and counterintelligence for some of the premier companies in this country. The need for international mechanisms to control or eliminate the potential use of chemical weapons cannot be denied but the mechanisms must not be adopted in haste or under pressure. I ask only that you delay consideration long enough for an informed debate to take place, and I stress informed.

My foremost concern is that the CWC adds little to the ability of this country, or any other for that matter, to be assured that chemical weapons are not being manufactured by specific nations. Experience in Iraq has amply demonstrated the ease with which inspections can be thwarted and sanctions can be thwarted and sanctions evaded. With all of the effort put into the inspection program the United States is still unable to say whether Iraq retains a capability to manufacture chemical weapons. We are unable to state publicly the chemical weapons production capabilities of nations such as Libya, Iran, Syria, China or Korea. Many nations posses a production capability of are thought to possess such capabilities. Nations that are likely to produce chemical weapons for use by terrorists or for limited battlefield deployment can produce sufficient quantities in laboratories small enough that they can temporarily closed or relocated to avoid inspections. The existing treaty on chemical weapons is already so weak on this point that no effort has been made to enforce it and provisions of the CWC are even weaker. Let's discuss objectively what information is required to verify such a treaty, the capabilities required to collect the information, the cost of doing so, and the likelihood of making such collection.

Furthermore, the opportunity for unfettered access to virtually every industrial facility in this country, not merely the pharmaceutical and chemical plants, would make some foreign intelligence organizations very happy, even gleeful. It is likely to cause the counterintelligence sections of the FBI and the Defense Investigative Service major problems for the foreseeable future. The inspection procedures which apply to ALL industries constitute unprecedented access to our manufacturing base, not just those though likely to be engaged in proscribed activities! My experience in protecting patents and intellectual property over the past ten years leads me to conclude that there is the potential for the loss of untold billions of dollars in trade secrets which can be used to gain competitive advantage, to shorten R&D cycles, and to steal U.S.

market share. To allow the invasion of private property without probable cause or a search warrant could undermine every industrial security standard established under government regulations or by private firms seeking to protect industrial processes or other proprietary information. Under the inspection and reporting practices specified in the CWC I see no prohibition against the exchanging of lucrative information among the nations conducting a given inspection. This country, for valid reasons, does not permit its intelligence agencies to conduct industrial espionage but we may be the only nation in the world to hold to such a standard.

The CWC constitutes a significant departure from the way this country conducts business and the way our society has elected to protect its very fabric. It seems to me that the CWC has been put together as a placebo measure to make people feel good but without considering the overall long term impact on our industry, our society and our legal system. The Congress bears the responsibility of assuring our citizenry that the advantages and disadvantages have been carefully considered and balanced.

We look to you to insure that those safeguards are built into the process.

Sincerely,

JAMES A. WILLIAMS,
LTG U.S. Army (Ret.).

AIR FORCE ASSOCIATION,
Arlington, VA, September 10, 1996.

Hon. JAMES INHOFE,
U.S. Senate,
Washington, DC.

DEAR SENATOR INHOFE: The Air Force Association is deeply concerned that Chemical Weapons Convention (CWC), due for consideration by the Senate this week, will unreasonably restrict military rescue efforts.

The Administration interprets the CWC to ban the use of riot control agents in armed conflict, even in a situation where combatants and noncombatants are intermingled. This can happen when our forces attempt to rescue downed pilots or hostages while engaged in operations during such a conflict.

Our Association has three concerns. The first is that this is an unreasonable interpretation of a treaty intended to eliminate truly heinous weapons of war. Banning the use of non-lethal riot control agents could put the military in the unconscionable position of having to abandon the rescue of a downed airman, or using lethal means and killing noncombatants in the effort. A treaty that does this by design begs for appropriate revision. If it results from misinterpretation, the convention's restrictions on riot control agents need to be revisited and clarified.

AFA's second concern is that if the Senate provides its advice and consent to the CWC with the present interpretation of restrictions on riot control agents, there will likely be an unacceptable gap between the time that these agents are banned and the availability of new non-lethal technologies. To our knowledge, no non-lethal technologies that could substitute for these agents are ma-

ture enough to be fielded in the near term. While we understand that the Administration would accelerate development efforts if the Senate approves the CWC, no good alternatives are apparently available during their development and acquisition.

The Association's final concern relates to the nature of the follow-on technologies. Approving the CWC before we can be confident that acceptable alternatives can be developed and fielded appears to discount the lives of military men and women as they put themselves in harm's way for the safety and security of others.

The Air Force Association urges the Senate to assure that the U.S. military has access to all the necessary tools, to include certainly those that are non-lethal, in its efforts to protect innocent lives, American citizens, and our service members in very dangerous combat situations.

Sincerely,

R.E. SMITH, *President.*

NFIB,
Washington, DC, September 9, 1996.

Hon. JESSE HELMS,
U.S. Senate,
Washington, DC.

DEAR SENATOR HELMS: On behalf of the more than 600,000 members of the National Federation of Independent Business (NFIB), I want to express serious concern regarding the regulatory requirements and burdens that would be placed on small businesses who "produce, process, consume, export or import" certain regulated chemicals with ratification of the Chemical Weapons Convention Treaty (CWC) and its implementing legislation.

This Congress has begun to address the serious problems of paperwork burdens and red tape which are strangling small businesses in this country. The passage of the Paperwork Reduction Act and the Small Business Regulatory Enforcement Fairness Act were positive first steps in reducing the excessive regulatory burden which consistently ranks in the top five problems small businesses face in NFIB surveys.

The CWC reverses the trend of reducing the growing regulatory burden on small business. According to the Congressional Office of Technology inspections of businesses required under CWC will cost small business $10,000–$20,000. The typical small business owner takes home only $40,000 per year. The Department of Commerce has estimated that a business will spend from 2.5–9 hours on paperwork for each chemical used depending on its classification.

There is a great deal of disagreement on the number of businesses which would be affected by the CWC. Numbers have ranged from 3,000 to 10,000. The regulatory burden of the CWC will hit small business harder than big business. A 1995 Small Business Administration study stated that while small business employs 53 percent of the workforce, they bear 67 percent of business' total regulatory expenses. Even if the number of small businesses in the initial list of affected companies is limited to a specific list, the fact that additional businesses might be regulated by CWC without approval by the U.S. Congress will leave small business powerless to

have any input as it does under the U.S. regulatory system. For the first time, small businesses would be subject to a foreign entity inspecting their business.

The CWC will continue to bury small businesses in paperwork and regulations. Therefore, NFIB urges your serious consideration of the affect of this Treaty on the small businesses in this country.

Sincerely,

DAN DANNER,
Vice President, Federal Governmental Relations.

U.S. BUSINESS AND INDUSTRIAL COUNCIL,
Washington, DC, August 8, 1996.

DEAR SENATOR: On behalf of the 1,000 member companies of the United States Business and Industrial Council (USBIC). I strongly urge you to oppose ratification of the Chemical Weapons Convention (CWC). The Senate is expected to vote on ratification this September.

If ratified by the Senate, the CWC will create numerous problems for small and medium-sized chemical manufacturers and other non-related industries that process chemicals as part of their manufacturing operations, included may be autos, auto parts, brewers and distillers, electronics, food processing, pharmaceuticals, paint and tire producers, and a host of other manufacturing industries.

Abroad, CWC inspections will not substantially reduce the proliferation of chemical weapons around the globe. Russia, with its huge stockpile of chemical weapons and massive production capability, has not ratified the CWC. also the world's most notorious terrorist nations, Iran, Syria, North Korea, and Libya, refuse to ratify.

At home, CWC represents a major infringement of U.S. sovereignty and the proprietary rights of manufacturers. First, the CWC empowers a U.N.-style agency to conduct detailed inspections of facilities on both regular and surprise basis. They need no justification of suspected illegal activity or even a search warrant. These inspections could cost individual companies anywhere from $10,000 to $500,000—a substantial unfunded mandate. And, CWC inspections could require up to 84 hours to complete.

Second, as written, the CWC effectively authorizes industrial espionage. The CWC offers no protections for company formulas and other trade secrets; they must be handed over if inspected. Nothing would prevent other unscrupulous countries such as France and China from placing intelligence officers on the inspection team.

Finally, the CWC will cost American business millions. Companies and the American taxpayers will pay $50 to $200 million for the privilege of handing over industrial secrets to competitors while not preventing chemical warfare or terrorism.

Clearly, overwhelming evidence demonstrates that the CWC will be disastrous for the United States. Please oppose ratification of the CWC this September.

Sincerely,

KEVIN L. KEARNS,
President.

CHEMICAL WEAPONS CONVENTION AND SMALL BUSINESS

(By Raymond J. Keating, Chief Economist, Small Business Survival Committee)

The Chemical Weapons Convention (CWC)—a treaty banning the production and stockpiling of chemical weapons—will be voted on in the U.S. Senate by September 14. The CWC is riddled with problems that should concern all Americans.

Defense and foreign policy experts have raised serious questions about the CWC. They see it as non-verifiable and non-enforceable, and not serving U.S. national interests. Indeed, risks may increase as the good guys sign on to the ban and lose any deterrence factor, while rogue states continue production and stockpiling of chemical weapons. Former Reagan Defense Department officials Douglas Feith and Frank Gaffney Jr. wrote in the May 5, 1994 New Republic: "The trouble is the CWC is a bad treaty—one that will likely increase the risk of chemical warfare around the world."

In addition, the CWC would raise regulatory costs on already over-regulated U.S. businesses. In particular, the CWC would inflict the following on U.S. entrepreneurs and businesses:

For the first time, U.S. private industry would be subject to foreign inspection as a result of a treaty. Inspectors would come from a new international agency in the Hague, Netherlands.

Businesses must prove to the U.S. government and international inspectors that they are not producing or stockpiling chemical weapons, with noncompliance fines reaching as high as $50,000 per incident. Forms would have to be filed on chemical types each year and changes in a process using certain chemicals would have to be reported five days in advance. Noncompliance could result in a $5,000 fine. And of course, with government bureaucrats issuing fines, the threat that fines shift from a means of deterrence or punishment to a source of revenues always looms.

Firms would be open to a real threat of international industrial espionage. The loss of proprietary information would threaten international competitiveness. The treaties protections are frivolous, and any court challenge likely would come after the horse left the barn.

U.S. firms producing, processing, or consuming a scheduled chemical will carry a paperwork/declaration burden. The U.S. Department of Commerce estimated that it will take companies 9 hours to fill out paperwork for every Schedule 1 chemical, 7.2 hours for Schedule 2 chemicals, 2.5 hours for Schedule 3 chemicals, and 5.3 hours for each Discrete Organic Chemical. Estimates range from 2,000 to more than 10,000 U.S. companies that will be forced to bear these paperwork burdens.

Congress's Office of Technology Assessment estimated that inspections will cost U.S. firms anywhere from $10,000 to $500,000 per visit.

Smaller businesses will be hit hardest by increased regulatory burdens. Interestingly, the Chemical Manufacturers Association (CMA) supports ratification of the CWC and told the Senate Foreign Relations Committee that the new regulations would not be a burden (see Investor's Business Daily, July 16, 1996). But the CMA is a group of generally large chemical manufacturers, and reportedly more than 60 percent of the facilities likely affected by the CWC are not CMA members. Large companies possess far greater resources and experience in dealing with regulators of all kinds. Indeed, new regulatory burdens can perversely give large firms a competitive edge over small companies due to these resource and experience factors. As economist Thomas Hopkins has shown, the per employee cost of federal regulation runs almost 50 percent higher for firms with fewer than 500 employees vs. companies with more than 500 employees—$5,400 per employee vs. $3,000 per employee, respectively.

Chemical companies would not be the only types of businesses subject to CWC regulations. Firms in the food processing, pharmaceutical, paint, petroleum, biotech, electronics, textiles, fertilizers, rubber, brewing, and distilling industries would be impacted as well.

U.S. taxpayers—individuals and businesses—ultimately will bear the governmental cost of the CWC. Estimates place the annual U.S. cost in excess of $200 million over a 15-year period, with the U.S. paying 25 percent of the CWC's cost and implementation. The total cost to business can only be guessed at, possibly running into the billions of dollars.

Significant legal questions arise for U.S. businesses as well. Distinct possibilities exist that rights of due process could be violated in relation to warrantless searches and personnel being compelled to answer questions, and provide information and access; and a "takings" could occur when government reveals information harming a business.

The Chemical Weapons Convention is a deeply flawed treaty that will do nothing to enhance and may indeed weaken U.S. national security, while imposing new regulatory burdens on U.S. businesses. The Chemical Weapons Convention should be rejected by the U.S. Senate.

U.S. SENATE,
OFFICE OF THE MAJORITY LEADER,
Washington, DC, September 6, 1996.

President WILLIAM JEFFERSON CLINTON,
The White House,
Washington, DC.

DEAR MR. PRESIDENT: I am writing to ask your cooperation and support for Senate efforts to obtain information and documents di-

rectly relevant to our consideration of the Chemical Weapons Convention.

As you know, the Senate is currently scheduled to consider the Convention on or before September 14, 1996 under an unanimous consent agreement reached on June 28, 1996. Immediately prior to the Senate agreement on the Convention, I stated, "With respect to the Chemical Weapons Convention, the Majority Leader and the Democratic Leader will make every effort to obtain from the administration such facts and documents as requested by the Chairman and ranking member of the Foreign Relations Committee, in order to pursue its work and hearings needed to develop a complete record for the Senate * * "

I regret to inform you that your administration has not been fully cooperative in Senate efforts to obtain critical information. Chairman Helms wrote to you on June 21, 1996—prior to the Senate setting a date for a vote on the Convention—and asked eight specific questions. Chairman Helms also requested the provision and declassification of documents and a cable relating to critical issues of Russian compliance with existing chemical weapons arms control agreements and with the Chemical Weapons Convention.

On July 26, 1996, having received no response to his earlier letter, Chairman Helms reiterated his earlier request and asked additional questions concerning the apparent Russian decision to unilaterally end implementation of the 1990 U.S.-Russian Bilateral Destruction Agreement on chemical weapons. Chairman Helms also asked for specific information and documents concerning Russian conditions for ratification of the Chemical Weapons Convention, as well as other information important to our consideration of the Convention. While Chairman Helms did receive response to his letters on July 31 and on August 13, his request for declassification of documents was refused and the answers to many of his questions were incomplete.

During a Senate Select Committee on Intelligence hearing on June 17, 1996, Senator Kyl asked for a specific document—a cable written in Bonn, Germany by Arms Control and Disarmament Agency (ACDA) Director Holum concerning current Russian government positions on the Bilateral Destruction Agreement, ratification of the Chemical Weapons Convention and on U.S. assistance for the destruction of Russian chemical weapons. On numerous occasions, Senator Kyl was told the document did not exist. Finally, on July 26, Senator Kyl was able to see a redacted version of the document under tightly controlled circumstances but the document has not been made available to Chairman Helms or other Senators.

Mr. President, the unanimous consent agreement of June 28, 1996, was entered into in good faith, and based on our understanding that the administration could and would be fully forthcoming in the provision of information and documents to enable the Senate to fulfill its constitutional responsibilities. Numerous judgments of the United States intelligence community deserve as wide a circulation as possible—particularly since they are distinctly different than some public statements made by officials of your Administration concerning the Convention.

Accordingly, I respectfully request that you reconsider your refusal to declassify critical documents and consider the declassifica-

tion of important intelligence community judgments—consistent with the need to protect intelligence sources and methods. Specifically, I request that you act immediately to declassify the May 21, 1996, cable written by ACDA Director Holum and the July 8, 1996, letter from Russian Prime Minister Chemomyrdin to Vice-President Gore, and consider immediate declassification of the paragraphs from which the attached statements are excerpted—all drawn from documents produced by the Central Intelligence Agency and the Defense Intelligence Agency on the Russian chemical weapons program, the verifiability of the Chemical Weapons Convention, the effect of the Convention on the chemical weapons arsenals of rogue states, and the relevance of the Convention to acts of terrorism committed with chemical weapons.

I make these requests to enable the Senate to fully prepare for its consideration of the Chemical Weapons Convention. I am certain you would agree it is necessary for the Senate to have complete and usable information in order to fulfill our constitutional obligations and to responsibly meet the terms of the current unanimous consent agreement. Because the unanimous consent agreement calls for the Senate to vote on the Chemical Weapons Convention by September 14, 1996, I respectfully request that you respond to my declassification request no later than the close of business on Tuesday, September 10, 1996. With best wishes, I am

Sincerely,

TRENT LOTT.

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