

# CHEMICAL WEAPONS CONVENTION 1993

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CERTIFICATE

Certified that the dissertation entitled, "THE CHEMICAL WEAPONS CONVENTION 1993", submitted by Mr. PANDRANGI RADHAKISHORE in partial fulfillment of the requirements for the award of the degree of Master of Philosophy, has not been previously submitted for any other degree of this university or any other university and is his own work.

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## INTRODUCTION

The Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction was opened for signature, in Paris on 13 January, 1993. The multilateral Chemical Weapons Convention, concluded on September 3, 1992 by the Conference on Disarmament (CD), in Geneva, and endorsed by the UN on November 30, 1992 is historic in the scope of its provisions and in the number of countries involved in its development. It offers an opportunity to build confidence, regionally and globally, and to enable the signatories to play a more responsible role in the international community..

French President Francois Mitterand, who hosted the signing, described the pact as "the first genuine world wide disarmament treaty". Former President Bush, who campaigned in 1988, as the candidate who would rid the world of the "scrouge" of chemical weapons, described the pact as "uniquely important in the field of arms control", and said that the treaty "will improve the security of all nations by eliminating a class of weapons of mass destruction that exists in all quarters of the world and that has been used in the recent conflicts"<sup>1</sup>.

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1. Feinstein Lee, "Chemical weapons convention signed by 130 countries in Paris", Arms Control Today, Jan/Feb. 1993, p.20.

When the Chairman of the Ad-hoc Committee on chemical weapons, Ambassador Ritter Von Wagner of Germany, introduced the result of the negotiations in the Conference on Disarmament, he emphasized that there was no precedent for this global, comprehensive and verifiable multilateral disarmament agreement providing for the elimination of the spectre of chemical warfare for all time. He also emphasized that the unique character of this convention was strengthened by the consistent application of the two principles of overall balance and adaptability to future needs<sup>2</sup>.

After its extensive and devastating use against unprepared troops in world war I, Chemical warfare, became a symbol of the indiscriminate horror of modern warfare, and its use was prohibited by the Geneva Protocol of 1925. Even though for political and practical military reasons chemical weapons have subsequently been used most infrequently the massive, U.S. and former Soviet stockpiles of these weapons and the possibility that they would become the "poorman's nuclear bomb" produced an international consensus that even the possession of these weapons should be banned. Iraq's

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2. Hyltenius Carl Magnus, "The chemical weapons convention: A Great Achievement in Multilateral Disarmament", Disarmament vol xi, No.1, 1993, United Nations, pp.1-2

brazen use of chemical weapons, in its war with Iran, stimulated the drive to establish an international regime banning these weapons once and for all<sup>3</sup>.

Several developments have led to the finalisation of the Chemical Weapons Convention. First, the end of the cold war increased the mutual trust and confidence among states. Other positive factors included changes in the US negotiating position, the collapse of the Soviet Union, the outcome of the 1991 Persian Gulfwar (which clearly demonstrated that chemical weapons are no longer politically desirable) and, not least, the clear political will of a majority of states to totally prohibit chemical weapons.

The Convention takes an approach of balancing national and multinational costs and benefits which is unique in the history of disarmament. On the one hand, individual state parties must provide declarations, adopt general measures for disclosure, open their chemical industry, accept the rules for challenge inspections and pay costs related to the Convention. On the other hand, they benefit by increased security, confidence and international behaviour. There are other benefits including better prospects for trade in

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3. For a good description, see Cordesman Anthony H., After the Storm, The Changing Military Balance in the Middle East, (Westview Press, Boulder and SanFrancisco, London, 1993(C)).

chemical products and technology, specific protection against chemical weapons and a provision for international assistance.

The Convention is the most elaborate and complex multilateral disarmament treaty ever signed. In its 172-page draft, one finds many important, sophisticated and novel means to affect disarmament, to prevent rearmament and to promote compliance with the Convention's provisions including the establishment of most intrusive verification system ever on a global scale. These mechanisms and provisions are important not only for arms control but for many other areas of international affairs as well.

The CWC has been signed by 156 nations since its opening for signature in January 1993<sup>4</sup>. Even though, only 130 countries turned up for the signing agreement in Paris, twenty six more nations signed the treaty in New York<sup>5</sup>, at a later date.

The CWC, also, has the potential to become an important confidence - building measure (CBM). States in certain regions with a history of adversial relations could mutually

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4. Smithson, Amy E., "Chemical Weapons, Conventional Wait", The Bulletin of the Atomic Scientists Sept, 1993, p.10.

5. Signatories and Non-signatories of CWC, 1993, SIPRI Yearbook 1993, pp.709-10 and Appendix I, signatory nations, as on 3 March, 1994.

agree to adhere to the convention, as a way of eliminating an important source of suspicion and tension. India and Pakistan have already followed this course by renouncing chemical warfare capabilities and signed a chemical weapons ban treaty<sup>6</sup>.

The United States had undertaken extensive chemical weapons arms control efforts, in its bilateral relationship with the erstwhile Soviet Union, that complement and reinforce non-proliferation policies. A radical change in the American position in the stockpile retention is evident from a statement made by President Bush on May 13, 1991: "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"<sup>7</sup>.

American response and commitment to the convention was explained by Ambassador Ledogar. When he was asked about the Russian stand, he said that his country has already started to try to help the Russians, both with technology and with

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6. Text of Joint Declaration by the Republic of India and the Islamic Republic of Pakistan on Complete prohibition of chemical weapons signed in New Delhi on Aug 19, 1992. Strategic Digest, Dec 1992, pp.1631-32.

7. ARMS Control Reporter Chemical Weapons, 1991, P.704.B.485.

money, from the fund the U.S. Congress provided for dismantling weapons of mass destruction in the former Soviet Union<sup>8</sup>.

Proliferation of global chemical and biological weapons constitutes one of the most significant threats facing the post-cold war world. The US House of Representatives Armed Services Committee Panel, under the leadership of Rep. Glen Browder D-Ala had been investigating C & B weapon issues since April, and the methods by which the U.S. might counter the threat emanating from them. Congressional sources say "The threat is very real, especially with the present unstable world situation". One congressional source said on December 2, 1992, that "There are more delivery systems and more aggressive countries out there (willing to use them). "The report will recommend that it is in the interests of the U.S. to assist other nations to destroy their deadly stockpiles", one source said on 2 December<sup>9</sup>.

Many of the developing countries showed serious concern on the outcome of the CWC. This is more evident from the statements made by the various delegations in the 32 Ad-hoc Committee meetings held in Geneva from 24 January, 1992 to 26 August, 1992. The delegation of the Islamic Republic of

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8. Ambassador Stephen J. Ledogar: The End of the Negotiations, Arms Control Today, Oct, 1992, pp.8-12 (Interview)

9. "House Panel Warns Against CW", Defence News, 7-13, 1992, p.6

Iran, in its statement emphasised the need for urgent ban on chemical weapons. The statement read "Our people have been the latest and hopefully will remain the last victims of the use of CWs (Chemical Weapons). The anguish resulting from this use cannot escape the souls and hearts of Iranians and hopefully the consciousness of the world". Explaining the nightmarish experiences", the delegation said, "we therefore may be right in the belief that no nation on this planet has been more enthusiastic than us to have such a ban through a multilateral convention". But, the statement stressed finally, "Our position vis-a-vis the text at the conference on Disarmament will be contingent upon the final outcome of the discussions related to Article VIII<sup>10</sup>.

The Australian group<sup>11</sup> has also reacted positively to developments in the Ad-hoc Committee. In connection with Art.XI<sup>12</sup>, attention is drawn to the CD plenary statement by

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10. i) U.N. General Assembly, Official Records of Forty Seventh Session, Supplement No.27 (A/47/27), Report of the Conference on Disarmament, UN, New York, p.48
  - ii) Article VIII of CWC deals with 'The Organisation' of CWC, discussed in Chapter I.
  11. The twenty member Australian group includes Australia, Austria, Canada, Japan, New Zealand, Norway, Switzerland, the United States and the European community member countries. The Australian group is an informal group of industrialised nations formed in 1984 to place export restrictions on chemical weapon-related items.
  12. Article XI of the CWC deals with the Economic and Technological development, about which Pakistan asked 'Australian group' to dismantle once the CWC comes into force, due to serious economic problems involved in the transfer of Schedule 2 and 3 Chemicals for the developing countries.



the Australian Representative on 6 August 1992, in which he stated, "They (members of Australia group) undertake to review in the light of the implementation of the convention, the measures that they take to prevent the spread of chemical substances and equipment for purposes contrary to the objectives of the convention, with the aim of removing such measures for the benefit of State Parties to the convention acting in full compliance with their obligations under the convention"<sup>13</sup>.

The perceived desirability of the CWC is, of course, a direct function of the changing European security environment. NATO members, in general, see the chemical threat in Europe as receding, along with the larger Soviet threat, and have committed themselves to being among the first signatories. Germany has been, perhaps, the most forthright in arguing that chemical disarmament can proceed without military risk in Europe.

Some of the Middle Eastern countries identified by the United States<sup>14</sup> as probable chemical weapons possessors that

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13. CD/1164, dated 7 Aug 1992, 'Statement made on behalf of the 'Australian Group' by the Rep. of Australia, Ambassador Paul O'Sullivan, at the 629 the plenary meeting of the CD, and the Statements made earlier.

14. "In spite of the efforts to curb the growth of the chemical weapons menace, CIA director William H. Webster concedes, 'We expect this trend to continue', According to CIA, confirmed possessors are Iran and Iraq, whereas suspected of possessing or in the process of acquiring are Syria, Israel, Libya, Egypt, Saudi Arabia, Ethiopia, South Africa, Myanmar (Burma), North Korea, China, Taiwan, Laos, Vietnam, Indonesia, Airforce Magazine, Jan 90, p.83.

did not sign the treaty include Egypt, Libya and Syria. The Arab League Secretary-General, Esmat Abdel Maguid, said that the Arab states' decision to boycott did not indicate disapproval of the chemical treaty, but was intended to pressure "Israel to join (the) Non-proliferation Treaty and to put its nuclear installations under international supervision"<sup>15</sup>.

The convention, which will be of unlimited duration, will 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 (i.e., not before 15 Jan 1995). The Organisation for the Prohibition of Chemical Weapons (OPCW) is entrusted with all the responsibilities related to the implementation of the CWC. The OPCW is made up of three separate elements - the Conference of the State Parties, the Executive Council, and the Technical Secretariat. Under the accord, signatories must destroy their chemical weapons stocks and facilities within 10 years, although a five year extension may be invoked in special circumstances. The costs are more at various levels of the treaty implementation, and will be borne by the state parties, according to the UN scale of assessment.

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15. Feinstein Lee, "Chemical weapons convention signed by 130 countries in Paris", Arms Control Today, Jan/Feb 1993, p.20.

This dissertation is an attempt at an evaluation of the CWC in terms of the costs and benefits to national and international security. It provides information about the historical background of CWC, verification provisions, commercial aspects, implementation mechanism, and thereafter delineates criteria for effective disarmament. Its purview is global, and an attempt is made to address the perspectives of each of the major constituencies involved in the Chemical Weapons Convention.

Chapter 1 provides an overview of the changing international context within which chemical disarmament has been pursued. There is a brief history of chemical arms control and of negotiated measures to deal with chemical weapons, leading to historic Convention. This is followed by an analysis of the text in general. This chapter emphasises the generally positive nature of the CWC and prospects for its successful entry into force, success of chemical disarmament negotiations and also underscores the obstacles and possibility of new challenges. The disarmament regime as embodied in the draft convention; it emphasises the importance of effective mechanisms to ensure compliance.

Chapter II describes verification of arms control agreements followed by the verification regime as embodied in the draft Convention. 'Universal accession', 'regular monitoring', 'challenge inspections', etc., given in

verification annex are discussed in detail. Chapter II also discusses the problems and politics of the verification regime.

Chapter III studies and speculates the commercial aspects of the Convention. It tries to evaluate the national security benefits and cost of chemical disarmament. The analysis delineates the different perspectives of the US, Russia, and other developed nations and also, the states of the developing world. Here the relevant question is, whether the disarmament option can be achieved at a reasonable cost? Is it a burden on the developing nations?

Chapter IV deals with the implementation mechanism and the future prospects of Convention. A trouble-free implementation of its provisions should not be taken for granted. The destruction of chemical weapons, information passage, inspections and inspectors, meeting the stringent economic standards and the local politics associated with planning national security in various countries pose serious problem to the implementation mechanism. The OPCW, and the progress made by the preparatory commission are discussed in this chapter. It also tries to point out the possible problems which may arise out of the Convention during the course of its implementation.

The conclusion offers several arguments on the disarmament negotiations and outcomes, and assesses whether the Convention can be an effective instrument of chemical disarmament- the number of countries that accede to its terms, the commitment of leading states to the implementation of the Treaty, the ability of the CWC Organisation to conduct its work effectively, and the preservation of adequate funding for both protective measures and intelligence capabilities in those states facing potential CW threats.

CHEMICAL WEAPONS CONVENTION

HISTORICAL BACKGROUND

The use of poisons in battle is as old as human conflict. The earliest recorded instance occurred in the Peleoponnesian war, when sulphur fumes were used in the seige of Plataea, between 429-427 B.C.

Negotiated measures to contain the use of chemical weapons are also nearly as old as recorded history. The use of poisons in war was forbidden by the Manu law of war in India, approximately in 500 B.C. and by the Saracens over a millennium later<sup>1</sup>.

Codification of the customary laws of war began in the 19th century. Two principles relevant to chemical warfare that citizens should be spared and that poisons should not be used - were included in the Lieber Code of 1863. This "code for the Government of Armies in the Field" was developed by the American political philosopher Francis Lieber for the Union government. It was distributed to the Union Army's commanding officers as "General Orders 100".

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1. Brad Roberts, Chemical Disarmament and International Security, Adelphi papers 267, Spring 1992, (London: Brassey's).

Article XVI of the code states that "the unarmed citizen is to be spared in person, property and honour as much as the exigencies of war will admit"<sup>2</sup>.

Although the code applied only to US forces, it served as a model for several European countries' military codes in the 19th century. The 1868 declaration of St. Petersburg, signed by seventeen European countries, but not by the US, forbade the use of certain projectiles. The declaration of Brussels of 1874 expressly forbade the use of poisons, but was never adopted by any state.

Those efforts continued at the International peace conference at the Hague. Thanks to the initiative taken of the Tsar of Russia, Nicholas II, an international Conference was held at the Hague in 1899 and again 1907. The two conventions included annexes forbidding, the use of projectiles for the diffusion of asphxiating' or deleterious gases<sup>3</sup>. Notwithstanding the solemn pledges made on these occasions, poisonous gases were employed in World War I with horrifying effect interms of human suffering, though with little consequence for the outcome of the military struggle.

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2. Jessica Eve, Steen, "Will terrorts turn to Poison?" *Orbis*, 37(3), Summer 1993, pp.393-410.

3. Gordom M Burck, and Charles C. Flowerree, International Handbook on chemical weapons Proliferation, (New York: Greenwood Press, 1991), p.540.

Germany first used chemical weapons in World War I, against French and British troops at Ypres in April 1915<sup>4</sup>. More than 150 tonnes of chlorine gas was released from cylinders along a four mile front, resulting in 20,000 casualties and 5000 fatalities. Chlorine sears the lining of a victim's air passages; when plasma enters the lungs from the blood stream victims drown in their own fluids<sup>5</sup>.

There are four different categories of chemical agents that have been developed to cause death or serious physical injury and have been chosen by one or more nations, for stockpiling or use. These are choking (also referred to as respiratory), blistering (vesicants), blood (systemic) and nerve agents. It should be noted, however, that a variety of common chemicals can cause death or incapacitation. The December 1984 leak of methyl isocyanate from a Union Carbide factory in Bhopal killed 2500 people. At present day industrial intermediates go, methyl isocyanate is not abnormally toxic. A modern nerve gas is 100 times more deadly.

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4. John Cookson and Nottingham Judith, A Survey of Chemical and Biological Warfare, (Monthly Review Press, 1969), p.283.

5. For a good description of chemical weapons use and its horrifying nature in World War I see, L.F. Haber, The Poisonous Cloud, (Oxford: Clarendon Press, 1986).



Thus, a variety of chemicals, though not developed or stockpiled as weapons could be used as such, particularly if they were available, when others were not. The first three types of chemical agents viz., choking, blistering and blood agents were used extensively in World War I. Nerve agents are very lethal and act rapidly, making them effective weapons in significantly smaller quantities. They are organophosphorus compounds that affect the central nervous system, primarily by inhabiting a "chemical messenger" in the body - cholinesterase. "The normal function of cholinesterase is to breakdown another chemical, acetylcholine, that causes muscular contraction. If the normal actions of this substance are not checked, its concentration in the body will build up to dangerous levels, causing the muscles to go into uncontrolled spasms, affecting all bodily functions. The ultimate effect is respiratory paralysis and death<sup>6</sup>.

Germany, as well as Australia, Bulgaria, Hungary and Turkey were prohibited under the peace treaties following their non-compliance from manufacturing or importing asphyxiating, poisonous or other gases and all analogous liquids, materials or devices. These were the first international instruments containing a prohibition to

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6. Kathleen C. Bailey, Doomsday Weapons in the Hands of Many, The Arms Control Challenges of the '90s (Urbana and Chicago: University of Illinois Press, 1991), pp.54.

produce gas for warlike purposes. Their importance was however limited, and they were imposed on defeated countries.

To eliminate the threat of chemical warfare, the initiative was taken by the League of Nations in its early years of existence and was a constant item on the agenda of the Leagues disarmament debates. An idea was put forward in 1921 to abolish secrecy about chemical weapons, to appeal to scientists to make public their discoveries, and thus "render impracticable the employment of those weapons". The reasoning was that, if every nation were armed with chemical weapons, the states would be deterred from using them for fear of the consequence to themselves. After consideration by a special League body, the proposition was found unrealistic. Another suggestion was for all the League members to adhere to the 'Washington Treaty', prohibiting the use of gas, which had been signed by the great powers in 1922. The treaty was, however, not ratified by all its signatories and never entered into force.

A proposal for an authoritative report on the effects which would be produced by the use of chemical and bacteriological weapons was accepted. The aim was to arouse public opinion and make it aware of possible dangers<sup>7</sup>. The

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7. SIPRI, The Problem of Chemical & Biological Warfare, Vol. IV, Chemical & Biological Weapons Disarmament Negotiations, 1920-70, (Stockholm, 1971), pp.52-74.

Report, a predecessor of a similar account issued in 1969, was based upon contributions by chemists and bacteriologists from various countries and appeared in 1924.

The main points made were that the use of poisonous gases marked the appearance of a terrible weapon; chemical weapons gave an immense superiority to any power with hostile intentions; the possibilities were very great. Lactirymatory agents were classified as chemical warfare agents, etc. The report paved the way to the Geneva Protocol of 1925.

In 1925, chemical and biological weapons were discussed at a conference in Geneva devoted to regulating trade in arms. The proceedings of the conference were marked by a conflict of interests between the weapon producing countries and non-producers. Finally, as a compromise, the Geneva protocol was signed on 17 June 1925, which reproduced the terms of the Washington Treaty of 1922, and thus prohibited the use in war of asphyxiating, poisonous or other gases, and of bacteriological methods of warfare.

No observations were made, either in the course of the discussion, or at the signing of the protocol, by any country with regard to the scope of prohibition. While China, France, the UK and the USSR became parties to the Geneva protocol within a few years of its signing, the US

government, which initiated and pushed through the Protocol didn't ratify it. In the 1920s, it was prevented from doing so, due to the concerted opposition of the American chemical Industry and the military, in particular the chemical warfare service.

The Geneva Protocol was pending before the US Senate until 1947, when it was withdrawn, by the US President along with a number of other treaties. It was resubmitted for approval in August 1970.

A commission convened by the League of Nations to prepare for a disarmament conference, met from 1926 to 1930. With regard to CBW, the consensus was that steps should be taken to speed up the process of the ratification of the 1925 Geneva Protocol. An appeal to this effect was initiated by the USSR and made by the preparatory commission. Expert bodies of the preparatory commission expressed the view that preparations for chemical war couldn't be detected and prevented; chemical factories can be quickly adapted to manufacturing poison gases; some types of these gases are current commercial products of industry; apparatus required for spreading the chemicals can be easily produced or improvised; enquires into complaints concerning violation of obligations are likely to be ineffective.

The outcome of the preparatory commission's efforts was not of a great consequence. Nevertheless, the examination of the manifold aspects of chemical and bacteriological warfare prepared the ground for a more thorough discussion at the Disarmament Conference.

By the time the Disarmament Conference was convened in 1932, thirty three states had ratified the Geneva Protocol and the demand was growing to remove the qualification in the envisaged convention for the reduction and limitation of armaments. The conclusion reached by the special committee on CBW was that, 'the prohibition of use of chemical weapons extends to substances capable in any way of producing harmful effects on the human or animal organism'. A resolution adopted by the special committee confirmed that 'teargas' belonged to the category of banned weapons. The USA, which was opposing it since long, didn't object and stated that it was against the use of teargas in war. The first report of the special committee devoted much attention to the elaboration of rules for establishing whether there had been an infringement of the prohibition to use C-B and incendiary weapons.

The second phase of the Disarmament Conference yielded two important documents concerning CBW - a comprehensive report of the special committee on chemical, incendiary and bacterial weapons and a United Kingdom draft convention for

general disarmament, which included provisions for the prohibition of those weapons. Notwithstanding the discouraging conclusions concerning the possibility of enforcing the prohibition of preparations of chemical, incendiary and bacteriological warfare, there were strong demands to include such prohibition in a convention for the reduction and limitation of armaments.

The relevant provisions of the UK draft were accepted as the basis for the future convention. If adopted it would have included the provisions containing many important things, including prohibitions of production, preparation for chemical warfare etc. The withdrawal of Germany and German rearmament brought about the breakdown of the Disarmament Conference and of all attempts to achieve universal arms reduction and chemical disarmament. But it is noted now that many proposals during the Leagues period have been revived in recent years.

The first major breach of the Geneva protocol occurred in 1935-36, during the Italy Ethiopia war. In the 1930s, again gas was also alleged to have been used by Japan in China. Though, due to proper evidence, some economic and financial sanctions were applied by the League against Italy for committing aggression, the League was unable to stop aggression and ensure respect for the Geneva Protocol.

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In 1947-48, for the first time, the question of CBW was brought up in the United Nations in connection with discussions on the definition of weapons of mass destruction.

The UN did not succeed in elaborating a comprehensive formula acceptable to all. Chemical and Biological weapons were generally considered as belonging to the mass destruction category (along with atomic bombs), but the definition provided by the United States was restricted to the lethal kinds of those weapons.

A suggestion made by the United Nations Secretary General in 1948, to study the problems involved in the control of CBW, was not followed up. The discussions on CBW became animated during the Korean War (1950-53) when the United States was charged with using bacteriological and chemical weapons in Korea and China. The evidence produced was considered unconvincing by a majority of UN members.

This consideration of the allegation of use of chemical weapons, though inconclusive, produced some indirect results. It emphasised the force of the international customary law prohibiting the use of C-B weapons. The discussion shed some light on the attitude of various states

towards the Geneva Protocol. Even those who minimized the importance of the Protocol did not contest the principles contained therein.

It should be noted that assertions made in the UN that poisonous gas had not been used at all during the second World War were strictly speaking, inaccurate. Gas was not used in combat but it was employed by the Germans against the civilians of enemy countries in occupied territories and on a mass scale.

Between 1954 and 1967 a number of treaties were concluded and restrictions imposed. Germany, Bulgaria, Finland, Hungary, Italy, Romania and Austria etc., were either asked or decided through negotiations, to refrain from manufacturing of several types of weapons of mass destruction, including chemical weapons. In October 1954, the Federal Republic of Germany forswore the right to produce or stockpile, on its territory, chemical weapons along with biological and nuclear weapons. This was a pre-requisite for joining the Western European Union (WEU) and later NATO. Under this agreement, the Federal Republic of Germany accepted international verification measures including on-site inspections,<sup>8</sup> a unique obligation at that

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8. United Nations, The Projected Chemical Weapons Convention: A Guide to Future Negotiations in the Conference on Disarmament, (New York, 1990), p.15.



time.

In 1968, at the request of the UN General Assembly, an international group of experts prepared a report on chemical and biological weapons and the effects of their possible use.

The overall arrangement was that certain chemical and biological agents are potentially unconfined in their effects, both in space and time. Their large scale use could, conceivably, have deleterious and irreversible effects on the balance of nature, humanity, etc.

The report was welcomed by many countries as a contribution toward increased knowledge about CBW. It was later supplemented by a study of the consultants of the World Health Organisation (WHO), on health aspects of CBW and chemical weapon use<sup>9</sup>.

In presenting the report, the UN Secretary General recommended universal accession to the Geneva Protocol, an affirmation to the prohibition applied to the use in war of all chemical and biological agents, (including tear gas and

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9. World Health Organisation Health Aspects of Chemical and Biological Weapons, Report of a WHO Group of Consultants, (Geneva, 1970).

other harassing agents), and a cessation of the development, production and stockpiling of those agents as well as their elimination.

In the discussion at the UN and in the Disarmament Committee, the prevailing feeling was that no new treaty instrument was necessary to prohibit the use of CB weapons. The constraints under Geneva protocol should be affirmed and strengthened. As to the prohibition of the development, production and stockpiling of CB weapons, there was a consensus that a new instrument or instruments should be elaborated.

The decade following the successful completion of the Limited Test Ban Treaty in 1963 was a period of intense activity in the multilateral arms control arena. The Eighteen Nation Disarmament Committee (ENDC) had as its first priority the conclusion of a comprehensive nuclear test ban and a ban on chemical and biological weapons, which were initially regarded as a single problem. Efforts to achieve a convention banning both types of weapons ran into difficulty from the start. It quickly became apparent that chemical weapons which had been used in war and which were considered first-line armaments by the two major powers were the more serious problem. Biological weapons on the other hand, had never been used and their military efficacy was unproven. In these circumstances, the verification

procedures applying to chemical weapons were bound to be much more difficult to negotiate than those for biological weapons. The successor to ENDC was the Conference of the Committee on Disarmament (CCD).

The following measures for the destruction of CWs were put forward for general and complete disarmament by the USSR on 15 March, 1962, at the ENDC: "All kinds of chemical, biological and radiological weapons, whether directly attached to the troops or stored in various depots and storage places shall be eliminated from the arsenals of states and destroyed (neutralised) (USSR, 1962a, 1962b)<sup>10</sup>.

In 1969-70 there was a new wave of pressure to bring about general adherence to the Geneva Protocol, prohibiting the use of chemical Biological weapons, as well as to stop the development and production of those weapons and to eliminate their stockpiles.

International discussion on the subject was more specific than at anytime since World War II. The UN Secretary General's Report on chemical and biological weapons and the effects of their possible use, and a WHO Report on health aspects of CBW, stimulated and helped the debate to go along. The UN and some important NGOs called

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10. SIPRI, Chemical Weapons Destruction and Conversion, London: Taylor & Francis Ltd., 1980), p.118.

upon states to urgently take appropriate measures. In these circumstance, the unilateral renunciation by the United States, of biological weapons including toxins, and a decision to dispose off existing stockpiles, was welcomed as an important disarmament event.

The drive for universal prohibition of use of CB weapons was reinforced by a new ratification of the Geneva Protocol, By the end of the 1970. The number of parties reached 82. A US proposals stated: 'to enhance the efficacy of the Geneva Protocol, the reservations entered into by a number of states, limiting the applicability of the production to parties and to first use only, should be withdrawn so as to make the ban universal and obsolete'.

By 1971 the Disarmament Committee also known as the Conference of the Committee on Disarmament (CCD), agreed to negotiate a convention which would prohibit the development, production and stockpiling of biological and toxin weapons. The Biological Weapons Convention, signed on 10th April, 1972 came into force on 26 March, 1975<sup>11</sup>. The BWC commits all state parties to negotiate in good faith towards "the recognised objective of effective prohibition of chemical

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11. U.N. DOC, A/2826 (XXIV); A Resolution Adopted by General Assembly on "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 2022, ND Plenary Meeting, 16 December, 1971.

weapons". From 1971 onwards this issue was discussed in the CCD and in the General Assembly as a separate topic. In these discussions, the principal questions have included the scope of prohibition, the activities and agents which should be subject to prohibition and the way in which compliance with a convention should be verified.

Defining the scope of the prohibition split the negotiating parties. Generally, the East European states and the non-aligned nations favoured a comprehensive approach, banning not merely chemical weapons above, but also their agents and means of delivery. The Western States saw numerous problems in this approach, including 'dual-purpose' chemicals, delivery systems which could deliver conventional as well as chemical munitions, the domestic use of herbicides and riot control agents, and the task of verifying a sweeping agreement.

The difference between the opposing blocks were exemplified in their early proposals. In March 1973, the Soviet Union, its East European allies and Mongolia presented a draft convention which was closely modelled upon the Biological Weapons Convention. Though, some non-aligned nations of the CCD approved some parts of the draft convention, the United States, supported by many Western nations, rejected the draft.

New draft conventions were submitted by the Japanese in April 1974 (CCD/920) and by the British in August 1976 (CCD/512). Though these drafts were also discussed. In the meanwhile, the first round of Soviet-American talks on chemical weapons began on 16 August 1976 in Geneva, outside the CCD. Discussions on a CWC spluttered along for several years with no movement toward serious negotiations, in great part because of the differing views of the US and the Soviet Unions.

Since the CCD had been the locus of most of the discussions on chemical weapons, it was agreed that the American and Soviet representatives would head their respective delegations at the negotiations in Geneva.

When the Committee on Disarmament (CD) finally began working on the framework of a possible multilateral treaty, the neutral Chairman of the Chemical Weapons Working Group discovered that the 1980 joint report of US-USSR bilateral negotiation formed a solid foundation for the group's deliberations.

The bilateral talks represented a somewhat belated fulfillment of the pledge given at the Moscow summit of 3 July 1974 by President Nixon and Secretary Brezhnev to

consider bringing forward a joint initiative on the prohibition of CWs. This commitment was reaffirmed by Gerald Ford and Brezhnev at Vladivostok in November 1974<sup>12</sup>. The first round of talks took place from 6 to 27 August 1976 and eleven other rounds were held before their adjournment in 1980. The bilateral talks overshadowed the endeavours of the CCD, but failed to produce a prompt initiative by the super powers.

Outside, the conference, there were certain developments to check chemical weapon proliferation in the 1980s. Policies that attempted to lessen the demand for chemical weapons - either by reducing the incentives for acquiring them or by building political barriers to doing so - were devised. In addition, the United States undertook extensive chemical weapons arms control efforts in its bilateral relationship with the Soviet Union that complemented and reinforced non-proliferation policies.

The dominant method of limiting supply is export control. The United States is the primary proponent of export controls, and it uses them to limit both exports to specific countries and exports of certain chemicals, through

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12. Edward M. Spiers, Chemical Weaponry, A Continuing Challenge, (London: MacMillan Press, 1989), p.182.

its two export control regulations currently in force, the Export Administration Regulation (EAR) and the International Traffic in Arms Regulations (ITAR).

In addition to tight domestic controls on chemical weapons-related exports, the United States has sought to internationalise its export control criteria and methods. The Australian Group grew out of the Gulf war-related export controls which various western governments began to impose upon their chemical industries in the spring of 1984 in the wake of evidence about the routes of supply for the Iraqi chemical weapons programme<sup>13</sup>. At its January 1987 meeting, the group comprised the 12 member states of the European Community plus Australia (in whose Paris embassy the group meets), Canada, Japan, New Zealand, Norway and USA. By the time of its next meeting in September 1987, its membership had grown to 20, the two new entrants being Switzerland and the European Commission itself. Representatives of these countries meet periodically and regularly use diplomatic channels to exchange information on chemical weapons proliferation problem. In particular, they attempt to co-ordinate export controls on fifty chemicals and work to inform their respective chemical industries to avoid transactions that might contribute to proliferation<sup>14</sup>.

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13. SIPRI Year Book, 1988, World Armaments and Disarmament, (Stockholm, 1988), pp.104.

14. Bailey, n.6, p.69



Eleven of the twenty Australian group countries had controls on all the fifty chemicals before their meeting, according to Richard Clarke, Assistant Secretary of State for political and military affairs in the Bush administration. He said in a testimony to the Joint Economic Subcommittee on Technical and National Security on 23 April 1991. "This is a dramatic change. As recently as 1989, only two member countries controlled all 50 chemicals. In the months, since the last Australia group meeting, several countries have adopted additional CBW non proliferation measures Germany has put additional curbs on its citizens' activities and improved enforcement. France, the UK, Australia Switzerland have, or are in the process of imposing, additional curbs"<sup>15</sup>.

While the most threatening chemicals are under export controls in most producing countries, controls on third party transfers are limited - particularly for amounts suitable for industrial processes. Some of these chemicals are widely available from industrial countries throughout the world, although the only country in the Middle East that manufactures large amounts of such processors for industrial purposes is Israel, which produces sodium fluoride and sodium sulphide<sup>16</sup>.

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15. Arms Control Reporter, 24 May 1991, 704 E.2.37.

16. Anthony H. Cordesman, After the Storm: The Changing Military Balance in the Middle East, (Boulder: Westview, 1993), p.

The Australian group played an important role in the non-proliferation of chemical weapons. As John McEntee, US Under Secretary of Commerce, said in 1991: "The fact that we gained a multilateral consensus will make it much more difficult for (countries) to make chemical weapons".

At the beginning of 1984, as an early sign of improving super-power relations, the Conference on Disarmament (as it came to be called from February, 1984 onwards) agreed that it should now move away from exploratory discussion and start its final elaboration of a chemical weapons ban, and gave a mandate to its Ad-hoc committee on chemical weapons, accordingly. The negotiations gradually got underway, impelled partly because of the submission from the United States of a new draft convention<sup>17</sup>.

Changes in the military dimension parallels shifts in arms control thinking. Progress at the negotiations was marked by a series of substantive Soviet moves, including announcement made by the General Secretary Gorbachev that the USSR had stopped production of chemical weapons. The expressed willingness of the USSR to accept a British

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17. UN, Conference on Disarmament Document No. CD/500, 18 April 1984, p.

proposal for mandatory on-site inspections which giving the challenged party its willingness to carry with interim alternative inspection measures<sup>18</sup> and Soviet decision to accept, in principle, the United States proposal, in its draft convention CD/500, of mandatory 'on-site inspection' at any site within 48 hours were examples of positive thinking. The basic policy of the US, changed in these years, and, thus, led to a smooth running of the CD negotiations.

After 1984, the ad-hoc working group, which was started in 1980 in the Conference on Disarmament, was given a formal negotiating mandate, for a chemical weapons convention. The negotiators worked on a rolling text, an evolving draft of the convention, updated every year with provisionally agreed new elements (annex I) and material for further work, (annex 2) parts of which were considered likely to be incorporated into the final version. The rolling text reflected the preferences of the Ad-hoc Committee on Chemical Weapons at the end of the each session<sup>19</sup>. The chairmanship of the Ad-hoc committee rotated each year through each of the three main political groups of delegation. The rolling texts submitted by successive Chairmen are contained in Conference Documents: CD/539, dated 28 August 1984 submitted by the

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18. Arms Control Reporter, July 1987, pp.704 B 2.29-2.30.

19. Thomas Bernauer, The Projected CWC: A Guide to the Negotiations in the Conference on Disarmament, (Geneva: UNIDIR, 1990), pp.28-29.

Chairman, Ambassador Rolf Ekeus of Sweden, who held the post again, and submitted to the CD, another text of the CWC CD/795 on 2 February 1988. In the period between the first and fourth Ad-hoc Committee group meetings, Turbanski of Poland (CD/636, dated 23 August 1985) and Cromartie of the UK (CD/734, dated 29 January 1987) submitted the texts to the Conference on Disarmament. In the later stages, CD/881 (3 February 1989 by Sujka of Poland), CD/961 (1 February 1990 by Morel of France), CD/1046 (18th January 1991 by Hyltenius of Sweden), CD/1116 (20 January 1992 by Batsanov of Russia), were submitted to the Conference on Disarmament. The Ad-hoc Committee's final version of CWC text was submitted to Conference on Disarmament, and later to the UN General Assembly, through CD/1170, by Ambassador Adolt Ritter Van Wagner of Germany on 26 August, 1992.

In 1989, two major international conferences took place outside the CD, which contributed to intensifying the quest for a total ban on chemical weapons. One was held in Paris, with the participation of high level Representatives of 149 states and another in Canberra, which assembled the Representatives of Governments and a large part of the world's chemical industry<sup>20</sup>. Before these, the United Nation Forum on Chemical Weapons, held in Geneva on eleventh and

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20. Carl-Magnus Hyltenius, "The Chemical Weapons Convention: A Great Achievement in Multilateral Disarmament", Disarmament, Vol. XVI, No.1, 1993, p.7.

twelveth of February 1988, discussed the chemical weapons ban. The Panellists included ambassadors from Sweden, Brazil, United States, France, the USSR, Germany and Poland<sup>21</sup>. Australia had also hosted the third meeting in Melbourne of the chemical weapon regional initiative, (26-30 August 1991). The workshop discussed the horrors of chemical warfare and technical aspects of the weapons convention. The chemists, who attended the meetings, also took part in a trial inspection of an Australian chemical plant<sup>22</sup>.

There were other developments outside the Conference on Disarmament. In September 1991, Argentina, Brazil and Chile signed the Mendoza agreement. Later Bolivia, Ecuador, Paraguay and Uruguay also signed this agreement. Almost at the same time, the governments of Peru, Ecuador, Colombia and Venezulu signed the Cartagena Declaration with similar and even wider proposals. Peru further suggested this agreement to the Grupo Rio members<sup>23</sup> in order to enhance place and international security in the area. Further, the proposal intended to strengthen democracy and foster friendly relationships among the neighbouring countries.

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21. "United Nations Forum on Chemical Weapons (Edited, Transcript of the Forum), as cited in Disarmament, Vol.XI, No.2, Summer 1988, pp.

22. Arms Control Reporter, 26-30 Aug, 1991, p.704.A.1.

23. The member countries are Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Paraguaya, Peru, Uruguay and Venezuela.

Both the Mendoza and Cartagena agreements established the commitment not to possess or develop weapons of mass destruction<sup>24</sup>. Furthermore, the Pugwash study group on chemical weapons and other non-governmental organisations made useful contributions to the efforts to outlaw chemical weapons.

In March 1992, the breakthrough had come from the Australian side for the Chemical Weapons Convention. Based on the rolling text, Senator Gareth Evans, Foreign Minister of Australia submitted an elaborate concrete draft CWC to the Ad-hoc Committee. The then chairman of Ad-hoc Committee, Ambassador Von Wagner of Germany, presented the draft with little modifications to the committee in May. The Non-aligned nations along with China, opposed it and proposed a number of amendments ranging over a wide field of issues, notably those pertaining to the verification regime.

The Conference was in session from 21 January to 27 March, 11 May to 26 June and 20 July to 3 Sept 1992. During this period, the Conference held 30 formal plenary meetings, to which member states as well as non-member states were invited.<sup>25</sup>

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24. James Brown, (ed.), Challenges in Arms Control for the 1990s, (Amsterdam: VU University Press, 1992), p.197.

25. The thirty nine countries represented in Conference on Disarmament on Ad-hoc Committee on Chemical Weapons were: Algeria, Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, China, Cuba, (Czech and Slovak Federal Republic, Egypt, Ethiopia, France, Germany,

On 19 August 1992, after further negotiations, the chairman presented the final version of the draft convention. Many delegations said that they could accept the text, but several others made statements in which they indicated the various problems they had with the draft and requested that their observations be reflected in the report of the Ad-hoc Committee on Chemical Weapons.

#### **THE CHEMICAL WEAPONS CONVENTION**

On 3rd September 1992, the Conference on Disarmament (CD) adopted the report of the Ad-hoc committee. It agreed, by consensus, to transmit the draft convention to the General Assembly at its forty seventh session. On 7th October, 1992, a draft resolution, sponsored in its final form by 145 nations and entitled, "Convention on the Prohibition of the Development, Production, Stockpiling and use of Chemical Weapons and on their Destruction", was submitted to the First Committee of the U.N. General Assembly.

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Hungary, India, Indonesia, Islamic Republic of Iran, Italy, Japan, Kenya, Mexico, Mongolia, Morocco, Myanmar, Netherlands, Nigeria, Pakistan, Peru, Poland, Romania, Russian Federation, Srilanka, Sweden, UK and Northern Ireland, USA, Venezuela, Yugoslavia and Zaire.

In introducing the draft convention itself, the representative of Germany, in his capacity as Chairman of the Ad-hoc Committee, underlined the point that the Convention provided for a co-operative non-discriminatory legal instrument to eliminate the specter of chemical warfare once and for all, and that universal adherence to it would contribute to the maintenance of international peace and improve the security of all states. He also urged that all delegations to weigh carefully the benefits of joining and costs of not joining the convention, stressing that all states, whatever the particular circumstances in their specific region, could only gain by making the convention a success - gain in terms of building confidence, increasing their security, and enhancing economic opportunity. Germany was convinced that implementation of the Convention would be a means of enhancing cooperative multilateralism as a basis of international peace and security<sup>26</sup>. The draft resolution was adopted by the first committee without a vote on 12 Nov.92, but with slight changes to the seventh and eighth Preamble paragraphs, and after inserting the actual date for the signing ceremony in Paris.

On 30 November, the General Assembly adopted the draft resolution without a vote, as resolution 47/39. On that occasion, Egypt, on behalf of the Group of Arab States,

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26. United Nations, Disarmament Year Book 1992, Vol.17, 1992, p.35.



On 30 November, the General Assembly adopted the draft resolution without a vote, as resolution 47/39. On that occasion, Egypt, on behalf of the Group of Arab States, stated that if the draft resolution had been put to a vote, the Arab states would have abstained. They were in support of declaring the Middle East a region free of all weapons of mass destruction as the best means of ensuring security for all concerned states. They were prepared to deal with the draft convention with in the context of efforts to establish such a zone and to the extent that Israel responded to international calls, to accede to the Non-Proliferation Treaty. Many of the Arab nations stuck to their stand and did not sign the Convention.

The Chemical Weapons Convention, which is the product of two decades of negotiations in the Conference on Disarmament and its predecessors, possesses a number of features that make it an outstanding achievement. For the first time a treaty came about through genuinely multilateral negotiations. Previous agreements were basically slightly modified copies of Soviet-American drafts. Nevertheless, the input made by the United States and the Soviet Union (subsequently by Russia) was very significant, both in conceptual terms and in technical details. The CWC differs from previous multilateral agreements in as much as it not only prohibits a whole category of weapons of mass destruction, but also restricts

the industrial base that has a potential for producing chemical weapons. Moreover, it provides for unprecedented verification procedures, the most revolutionary of which are the provisions for challenge inspections covering any locations and facilities in state party, irrespective of their relevance to chemical weapons. The Convention consists of the Preamble, 24 Articles and three Annexes; Annex on chemicals, Annex on implementation and verification (Verification Annex) and Annex on the Protection of Confidential Information (Confidentiality Annex)<sup>27</sup>. The annexes form an integral part of the Convention. The Convention, which will be of unlimited duration, will 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 (i.e., not before January 15, 1995). (The text of the Convention and a summary is in the Appendix IV).

The Convention has many provisions or features under in addition to the obligations not to use, develop, produce or otherwise acquire, stockpile, or transfer chemical weapons. It requires the state parties to destroy all chemical weapons in their possession and production facilities (CWPFs), not to engage in preparation for chemical warfare,

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27. CWC Text is included in UN General Assembly (Official Records of 47th Session, Supplement Number 27 (A/47/27) Report of the Conference on Disarmament, Appendix I (New York: United Nations 1992), pp.107-276.

not to assist or encourage others to engage in any of the proscribed activities and not to use riot control agents such as tear gas as a method of warfare.

The Convention also requires a state party to declare, within 30 days of its entry into force the kind and quantity of chemical weapons possesses, any chemical facilities on its territory or under its control and national plans for destroying weapons and facilities. Parties of the Convention are required to cooperate with the Organisation for the Prohibition of Chemical Weapons (OPCW), which will be responsible for verifying compliance. The comprehensive scope of general obligations in article I, in an absolutely non-discriminatory way, bans all conceivable actions in contravention to the object and purposes of the treaty. There are built-in safeguards to deal with situations where the basic obligations have not been respected, in particular articles X (Assistance and protection against chemical weapons) and XII (Measures to redress a situation and to ensure compliance, including sanctions).

The CWC verification system covers without exemption all the territory under the jurisdiction or control of each state party, thus greatly facilitating the development of any future verification system. There were very clear and unambiguous provisions on the destruction, including

verification, of chemical weapons and chemical weapon production facilities as elaborated in Articles IV and V in conjunction with parts IV and V of the verification Annex. The general verification package beyond the specific provisions for verification of destruction, consists of challenge inspections (articles VI and parts VII to IX of the verification annex). The political instrument of challenge inspections reconciles the diverging objectives of maximum assurance against non-compliance, protection of the inspected state party's sovereign rights, and prevention of abuse, routine verification in industry balances the objectives of reliable confidence building, simplicity of administration and non-interference with perfectly legitimate activities in the chemical industry.

Finally, the CWC is the first multilateral disarmament treaty establishing its own verification and implementation agency - the Organisation for the Prohibition of Chemical Weapons - with its own preparatory commission. Of course, one could refer also to the IAEA "servicing" the NPT, but the Vienna agency was not established by the Non-Proliferation treaty. The OPCW, whose headquarters shall be in Hague, has a good chance of becoming an international organisation of the new type; efficient, flexible and free from the notorious international red-tape which was characteristic of a number of older organisations born in

the cold war era<sup>28</sup>. The Executive Council, its composition, procedure, decision making powers and functions are included in Article VIII.

The evolutionary concept of economic and technological development, as contained in article XI and highlighted in the Preamble, in conjunction with the equally evolving confidence building regime of verification in the chemical industry, opens the door to expanded international trade and economic corporation in the chemical sector.

The chemicals covered by the treaty are listed in three lists, or "Schedules", corresponding to the degrees of concern they pose.<sup>29</sup> Schedule 1 covers chemicals that have been developed and used as chemical weapons, or that have little or no use other than as chemical weapons. Examples include: nerve gases like soman and sarin. All Schedule 1 chemicals must be destroyed; except for a small quantity, (upto one metric ton annually) that may be produced in a single facility for medical, pharmaceutical or defensive purposes.

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28. Serguei Batsanov, B. "Some Observations on the Chemical Weapons Convention". Disarmament Vol. XVI, No.1, 1993, p.32.

29. Chemical Schedules are given Appendix II of the CWC Text.

Schedule 2 chemicals are those that pose "a significant risk" to the object and purpose of the Convention. These chemicals are either highly toxic or incapacitating, or may be used as a precursor in the final stages of making a Schedule 1 chemical. Examples are thiodiglycol, a precursor of mustard agent (also used in making ink for ball point pens) and the incapacitant BZ. The convention prohibits the transfer of Schedule 2 chemicals to non-parties after the Convention has been in force for three years. In the interim, "end use certificates", pledging recipients not to use the chemicals for purposes prohibited by the treaty, are required for such transfers.

Schedule 3 chemicals are other chemicals that pose a risk to the object and purpose of the Convention. Included in this are, chemical weapons related compounds such as hydrogen cyanide or chemicals that are important to the production of the chemicals listed in Schedule 1 or 2. Facilities that produce Schedule 3 chemicals, as well as other facilities that produce organic chemicals, are subject to verification. Schedule 3 chemicals must be declared if more than 30 metric tons are produced annually. Facilities producing more than 200 tons are subject to routine inspections. Initial reports on schedule 3 chemicals include data for the previous calendar year on quantities produced, imported and exported. Chemicals are discussed under Annex I of the CWC draft.

The Organisation for the Prohibition of Chemical Weapons (OPCW) is entrusted with all the responsibilities related to implementation of the CWC. This body is in some respects similar to the International Atomic Energy Agency (IAEA), but it will have greater authority for overseeing the functioning of the CWC than the IAEA has with respect to the NPT. It will be established in the Hague and may eventually have 500-1000 personnel. Its mandate, among other things, is to conduct verification as provided for under the CWC in an unobtrusive manner. It must do this while protecting the confidentiality of the data collected (Confidentiality Annex), making use of advances in science and technology. Its costs will be apportioned among states parties in accordance with a modified UN scale of assessment<sup>30</sup>.

The OPCW is made up of three separate elements; the Conference of the State Parties, the Executive Council and the Technical secretariat<sup>31</sup>. A preparatory Commission was set up in the Hague to develop the rules of procedure for selection of manpower for the OPCW decide budgetary and personnel questions, elaborate procedures for conducting investigations (including technical details such as

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30. SIPRI, Yearbook 1993, World Armaments and Disarmament (Stockholm, 1993), p.721.

31. Scheme diagram of the OPCW is in Appendix III of the CWC Text.

specifications for instrumentation to be employed in inspections), and undertake many other tasks not spelled out in detail in the Convention or its annexes. A list of the tasks the Preparatory Commission is expected to undertake covers five pages in the text of the Convention. The work of the Commission is expected to take two years. The constituents of the OPCW and the progress of the Preparatory Commission is discussed in detail in the Chapter on "Implementation" with the problems involved.

Individual states will also be required to take preparatory actions in conjunction with a decision to adhere to the Convention. In accordance with their constitutional processes, they will have to adopt measures to prohibit any persons over whom they have legal jurisdiction from undertaking any proscribed activity, and pass legislation to assure access to chemical facilities covered by the Convention. States will also have to extend their penal legislation by making it applicable, in conformity with international law, to any of its nationals anywhere who engage in any prohibited activity. Each party must designate a national authority to serve as the focal point for liaison with the OPCW and other parties to the accord.

The conclusion of the negotiations on the CWC proved that it is possible to remove political obstacles if there is sufficient motivations. Two examples stand out the



problems related to herbicides and riot control agents. It was clear that only a compromise could solve these controversial issues. For herbicides this was done by inserting a special paragraph in the Preamble.

There are weaknesses in the Convention, but the negotiation of a multilateral disarmament treaty of such complexity must be viewed as a process of achieving the best possible compromise. The convention is historic and the first genuine worldwide disarmament treaty destroying one kind of weapons of mass destruction.

### VERIFICATION

Arms control verification is a process conducted by legally constituted state authorities to monitor compliance with their arms control obligations. From the very outset, the verification issue was one of the most difficult in the arms control negotiations. Analysts disagree on the value of arms control and disarmament agreements in large part because they disagree on core assumptions about the nature of national security and the objectives of negotiating parties. Similarly, assessments of an agreement's "verifiability" can be quite different, depending on underlying assumptions about the motives of participating states and the military utility of cheating.

The verification process addresses three questions. Is an arms control arrangement being violated? If so what risks are posed by the violation. And what are the best responses to those risks? These questions are not trivial. The verification process or regime cuts across a number of first order issues in the social contracts, which unite the leaders of modern states to their constituencies and in

international politics generally<sup>1</sup>.

Every U.S. President since Richard Nixon has enunciated the same standard for assessing verification requirements. Prior to 1980, these standards were deemed to constitute 'adequate' verification. With the Reagan and Bush administrations, the term 'effective' verification gained currency. Although the adjectives changed, the key criteria remained constant. The U.S. must have an ability to detect militarily significant violations sufficiently in advance to make an effective response. Effective verification, according to former President Reagan, meant that "the U.S. must have the ability to acquire sufficient information to render a reasonable judgment on whether other parties are complying with the limits of an agreement and its provisions, and to render this judgment in a timely manner, such that we can compensate any risk posed to our security by the violation"<sup>2</sup>.

Experience has shown that exercising political judgment on verification matters is not easy. Part of the difficulty arises from the challenge of negotiating agreements in an

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1. Wilier, Michael O., "Verification in the 21st Century, a strategic perspective" in "James Brown (ed)" Challenges in Arms Control for the 1990s (VU University Press, Amsterdam, 1992), p.7.
  2. Krepon, Michael, Strategic Stalemate; Nuclear Weapons and Arms Control in American Politics (New York, St. Martin's Press, 1984), pp.156-157.

atmosphere of suspicion and mistrust. In negotiations between even moderately competitive states, constructive ambiguity is a diplomatic tool often used to allow closure on otherwise intractable differences. This ambiguity lends itself to verification debates. Moreover, political authorities often are unwilling to specify, in other than abstract terms, their standards of verification, in order not to suggest to other parties to a treaty where the terms of the treaty can be evaded or circumvented with relative impunity. However, these standards can be inferred from how a government pursues verification during negotiations, ratification and implementation of a treaty.

Literally, verification means "to make sure of the truth"; in arms limitation parlance, it generally refers to the process followed to make certain that parties to an agreement comply with its terms'. Verification should help ensure that the contracting parties continue to behave in the way they have bound themselves to behave and should serve to prevent them from breaking the promise they made by entering into an agreement".

Given the thousands of industrial chemical plants and military installations in the world and the relative simplicity of producing chemical warfare agents, the verification of a chemical weapons ban presents a formidable technical challenge. The Convention wisely steps back from

attempting to ensure absolutely that no clandestine production can occur. Instead, monitoring procedures are established that will adequately verify that militarily significant quantities of chemical weapons are not being produced and that all declared stockpiles are, in fact, accounted for and destroyed. For many years, the erstwhile Soviet Union and its allies in the Conference on Disarmament refused to accept the necessary international verification on their territories, whereas the US went far enough to demand intensive and comprehensive verification. This was evident, for example, in 1984, when then Vice President, George Bush submitted a complete draft convention on chemical weapons to the Conference on Disarmament. The attitude of the former Soviet Union was also changed radically under President Gorbachev. In this matter, it was no longer a question of "anytime, anywhere, with no right of refusal". However, it gradually became clear, that China and a number of developing countries had difficulties in accepting intrusive verification, while the West European and some other states worked consistently and determinantly for an effective and relatively intrusive verification regime until the conclusions of the negotiations.

The outcome of the many years of negotiations on this matter was a major compromise between the demand for

effective verification of compliance with the Convention and the need to maintain legitimate secrecy regarding military and industrial matters unrelated to the ban on chemical weapons<sup>3</sup>.

The Chemical Weapons Convention provides for inspections with several objectives. They included: The verification declarations by a state concerning its possession of chemical weapons and production facilities and overseeing the destruction of those that are declared, determining the disposition of any abandoned chemical weapons stocks on the territories of the parties, ensuring that the facilities producing chemical weapons related chemical for permitted purposes are not exceeding their allowed limits, conducting routine inspections of industrial chemical manufacturing facilities that have a capability to manufacture chemical weapons and carrying out inspection of activities on the territory of a party in response to an allegation by another party that the activities may be inconsistent with the provision of the convention<sup>4</sup>.

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3. Hyltenius, Carl Magnus "The Chemical Weapons Convention: A Great Achievement in Multilateral Disarmament" Disarmament Vol. XVI, No.1, 1993, pp.8-9

4. Flowerree, Charles C., "Chemical Weapons Convention A Milestone in International Security", Arms Control Today Oct.92, p.5.

## ROUTINE INSPECTIONS

Article VI of the CWC text<sup>5</sup>, in conjunction with parts VI to IX of the Verification Annex<sup>6</sup>, sets both a comprehensive and graduated routine regime for international monitoring, through declarations and on-site inspection, of "activities not prohibited under the convention", in particular in the chemical industry. The basis of the regime are the schedules of chemicals listed in the Annex on chemicals (see Appendix II). Verification of the CWC begins with declarations. Each party to the convention must provide extensive data - with regular updates - on its existing chemical weapons and production facilities, on their elimination over time, on old or abandoned chemical weapons located on its territory and on industrial facilities producing more than certain amounts of organic chemicals which might not fall under the three schedules. In principle, the CWC embraces all toxic chemical and their precursors, while in practice 14 families and 29 chemicals are listed. There are 12 entries in schedule 1, 14 in Schedule 2, and 17 in Schedule 3. It has been estimated that approximately 108,000 chemicals could be covered by entries 1-3, inclusive of Schedule 1, and this will have implications for the chemical analysis involved in routine

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5. CWC, text, UN General Assembly, Report of the Conference on Disarmament, New York, 1992, pp.124-6.

6. Verification Annex, N5, pp.161-268.

inspections. Schedule 1 effectively removes a substance from commercial use, a state party may possess an aggregate of 1 tonne of such chemical and any production above 10 kg must be carried out in the designated small scale production facility<sup>7</sup>. Chemical and schedule must be reported when production exceeds a threshold, but there are no limits on production. Schedule 2 production facilities are subject to initial and routine inspection; reporting and the thresholds are in the 1 kg - 1 tonne range depending on the chemical. Schedule 3, which is used for chemicals in large scale production or for specific precursors to schedule 2 chemical, has a threshold reporting range of 30-200 tonnes.

Government and civilian facilities producing small amounts of schedule 1 chemicals, i.e., chemical warfare agents, for certain approved purposes such as protective or medical research, are subject to the most rigorous verification measures under the provisions of article VI and part VI of the verification annex<sup>8</sup>.

Before explaining further the verification regime, let U.S. see annex, which is more than hundred pages in length and consists of 11 parts. The parts of verification annex are arranged as follows<sup>9</sup>:

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7. SIPRI Yearbook, 1993 World Armaments and Disarmament (Stockholm, 1993), pp.726-7.

8. Verification Annex, N.5, pp.228-234.

9. Contents of the verification Annex are given in the Appendix V.



- i) Definitions;
- ii) General Rules of verification;
- iii) General provisions for verification measures pursuant to Articles IV, V and VI, paragraphs 3;
- iva) Destruction of chemical weapons and its verification pursuant to Article IV;
- ivb) Old chemical weapons and abandoned chemical weapons verification);
- v) Destruction of chemical weapons production facilities and its verification pursuant to Article V of CWC;
- vi, vii, viii) The parts vi, vii and viii are on activities not prohibited under this convention in accordance with Article VI and Regime for Schedule 1, 2 and 3 chemical and facilities related to such chemical;
- ix) Activities not prohibited under this convention in accordance with Art VI; Regime for other chemical production facilities;
- x) Challenge inspections pursuant to Article IX; and
- xi) Investigations in cases of alleged use of chemical weapons.

It is quite evident from the above<sup>10</sup> that verification plays most important role in the convention, and a separate Annex, which is quite elaborate, is added to the text.

Coming back to a discussion on the regime's routine inspections, the chemical industry that has been a strong supporter of the Convention will have less rigorous measures elaborated in parts VII and VIII of the verification Annex.

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10. Verification Annex, V.5, p.161-269.

For industrial plants, only those facilities producing more than certain specified amounts of particular chemicals must be declared. These declaration thresholds, and the similar thresholds for facilities subject to routine inspections, vary according to the types of chemicals the plant produces. For facilities producing Schedule 2 chemicals, the threshold may be one kilogram, 100 Kilograms, or one metric ton. These sites become subject to routine inspections when amounts on hand range from 10 kilograms upto 10 metric tons, depending on the scheduled chemicals.

Facilities producing schedule 3 chemicals must be declared if more than 30 tones are produced annually. Routine inspections can be triggered when facilities handle over 200 tones annually. Other chemical production facilities that produce organic chemicals must be declared if they produce more than 200 tons a year, or 30 tons if the chemical contains phosphorus, sulphur or fluorine - key building blocks of chemical weapons and these facilities are subject to routine inspection if they pass the 200 ton production threshold<sup>11</sup>.

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11. Krepon, Michael, "Verifying the Chemical Weapons Convention", Arms Control Today, Oct.92, pp. 19-24.

These provisions on verification in the chemical industry, as they emerged after years of negotiations, reconcile various objectives. They are conducive to enhancing confidence and international cooperation, but not excessively ambitious in their verification goals. They can be administered with relative ease; and they are flexible and open to future adjustment in the light of practical experience gained. Verification in the chemical industry aims at steady and continuous confidence building and it does not provide for highly political action to answer concrete concerns about possible non-compliance.

When the treaty enters into force, and declarations are made, inspection at the sites will begin. The duties, obligations and unimpeded access to the sites is clearly specified in the verification annex of. The inspection team, comprising international technocrats alone, will choose the areas and specific items to be inspected in accordance with the article on inventions and annexes. Inspectors have the right to obtain clarification of ambiguities that arise during inspection and can obtain samples taken at their direction by the host. Inspectors and states are supposed to cooperate with each other during inspection times. Samples can be sent to the laboratory analysis.

Inspectors have mandatory access to the all the verification tasks like the control of chemical weapons stocks, production, conversion and destruction facilities. These rights are more comprehensive than for any other arms control agreement.

Inspections depend on the schedule of chemicals that are produced. For initial inspections at Schedule 1 sites, the Convention requires inspectors to provide 72 hour advance notice before arriving at the point of entry, after which the host state has 12 hours to get them to the site to be inspected. For subsequent inspections, only 24 hours' notice is required before arrival at the entry point. There are no limits on the number, intensity, duration, timing and mode of follow-up inspections, which are to be based on a judgment of the risks a particular site poses to the purposes of the Convention. The preparatory commission is assigned the task of making recommendations on this vital issue.

Accessibility is more at the Schedule 2 and Schedule 3 sites. Inspectors are granted permission at all the declared sites, where they have the right to take samples and review pertinent records. In addition, at Schedule 2 sites inspectors can visit administration offices, repair and maintenance shops, medical centers, analytical laboratories, research and development laboratories and warehouses.

Inspectors may also visit areas where feed-chemicals are delivered and stored, and where manipulative processes are performed, including feed-line external surfaces of reaction vessels, associated valves, ancillary equipment and flow meters. In addition, inspectors may examine equipment and areas at plant sites for waste and handling of effluence. The extent of access at the Schedule 2 chemicals will be determined by preparatory commission and has to be approved by the Executive Council.

As far as inspections of the Schedule 3 chemicals are concerned, mandatory access is also required for plants producing them and other chemical production facilities which have equivalent verification regimes. But here the inspectors may take samples and records, only with the consent of the host country, contrary to the right to do so in first two Schedules. No facility agreements are initially required for Schedule 3 and other chemical production facilities, although they could be drawn up to expedite inspections at these sites.

In Schedule 2 chemical sites, inspectors must give 48 hour advance notice before they arrive at the inspection site, and the inspection can last no more than 96 hours, unless the host country agrees to extend it. Inspections at

Schedule 3 and other chemical production facilities will not last more than 24 hours and advance notice of 120 hours or more is required.

As there are so many verification procedures to be sorted out in the next few years by preparatory commission and the Executive Council, it was agreed that routine inspections at the sites will not begin until the fourth year after the Convention's entry into force, unless the parties decide to speed up this process. However, Schedule 3 and other chemical production facilities could be subject to challenge inspections, as soon as the treaty enters into force. The number of routine inspections is limited in two ways. No single plant site involving non-Schedule 1 chemical is required to receive more than two routine inspections annually, and no state need host more than 20 routine inspections per year.

Inspections at the chemical weapons sites are categorized into six general types, based on their different functions. The CWC incorporates Declaration of chemical weapons and validation, Routine inspection of chemical weapons related facilities, Treaty limited items destruction (Elimination), Production (close routine), Potential TLI production (routine), and Undeclared facilities (challenge). The routine as well as challenge inspections are the two major parts of verification regime.

## CHALLENGE INSPECTIONS

Article IX of the CWC provides for consultative clarification procedures and, in conjunction with part x of the verification Annex<sup>12</sup>, for short notice "challenge inspections". A 'state party' may request a challenge inspection of any facility or location in the territory of another 'state party', for the purpose of clarifying and resolving any questions concerning possible non-compliance. The request will then be "multilateralized" and the inspected state party must permit the technical secretariat to conduct the inspection and is obliged to grant access to the Organisation's inspection team. However, there are a number of measures for the inspected state party to protect from undue intrusion, those activities and installations which it considers unrelated to the inspection request.

The CWC is the first arms control agreement ever to require participating states to accept challenge inspections at any site, without a right of refusal. This right is not absolute, however, reflecting the parties need to protect sensitive information. The convention strictly disallows any kind of non-transparency in matters of verification and state parties should be able to demonstrate their compliance

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12. Verification Annex, N.5, pp.161-268.

and to enable the inspection team to fulfill its mandate. All state parties are required to accept the challenges but have a chance to delay or avoid inspection of particular locations within a suspected site, they may propose alternative arrangements to demonstrate compliance.

The place or perimeter within which the inspection will take place has to be settled by negotiation. All suspected sites should be included under the perimeter. The inspected state is given a minimum of 12-hour notice before the challenge inspection team arrives at the pre-designated point of entry. Perimeter of the suspected site must be completed within 24 hours of the inspection team arrival. The challenged state must get the inspection team's to the perimeter no later than 108 hours after its arrival at the point of entry, and the inspection team must be allowed into the challenged site. Except by mutual agreement, inspection cannot exceed 84 hours. Though, there is considerable delay between the challenge and the team's entry into the site - a total of around 120 hours may seem long but, because modern chemical detection is very advanced, it is quite possible to detect if chemical agents are being used, even if the whole site is cleaned up. At the inspection sites inspectors are allowed to take photographs, video recordings, and negotiating access to trucks leaving the site. Inspectors may use monitoring instruments and may take air, soil and effluent samples around the perimeter. Air and effluent



samples are particularly important as it is difficult to produce chemical weapons without emitting tell tale products into the environment.

'Managed access' concept is a negotiation over the extent of access to any particular place within the perimeter, as well as particular inspection activities including sampling. Inspectors, once inside the perimeter, will go forward on "managed access" basis. Under the managed access procedures, the host nation has the right to protect its national security. For example, the inspected state can remove sensitive papers, shroud certain sensitive equipment, turn off computers and data recording devices, allow inspectors into only a given percentage of the buildings or rooms chosen at random or, in exceptional cases, allow only one inspector from the team to view a particular area. If the host state offers less than full access, it must be able to make alternative arrangements to prove its compliance with the provisions of the treaty<sup>13</sup>.

Any party to the treaty may request a challenge inspection of any other party and the Organisation (OPCW) must carry out the requested inspection, unless a three quarters of the Executive Council agrees that it is frivolous or abusive. The Director General of the Technical

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13. Ibid, p.147.

Secretariat will determine the size and composition of the inspection team, which will be drawn from lists of nationals submitted by participating states. National governments can strike off names of proposed inspectors from the lists within 30 days after they are first submitted, but after that the onus is on the inspected state to accept the designated inspectors. An observer from the state lodging the challenge may accompany the inspection team, although that individual's access rights may be more limited than those of the other members of the inspection team, if the host country so chooses<sup>14</sup>.

Elaborate provisions included in the challenge inspections are the most unprecedented features of a disarmament treaty, which is universal in the scope. They may set a new precedent for other multilateral disarmament agreements or for the strengthening of the existing verification regimes.

#### **DETECTION AND DESTRUCTION**

At present, surviving in a chemically contaminated environment requires a two-step process - "Detection" and "Destruction". In almost all instances, the agent is detected, the intended target is notified by an alarm system

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14. Ibid, pp.269-274.

and then the potential victim must stop whatever he is doing and take immediate protective action. Small micro-computers will be used in future to link detection and protection systems together, so that, everything happens automatically<sup>15</sup>. The seven different chemical detection sources include Manual Input, Fixed site, NBC Reconnaissance System (NBCRS), Chemical agent Detector Network (CDNET), Remote Sensors, Micro-metrological project (Micromet), and Airborne monitors<sup>16</sup>.

The difficulties involved in the detection of chemical weapons are largely because, these weapons are Odourless and colourless, and if dispersed with conventional weapons, may not leave any physical evidence of their destruction.

Since 1973, the Finnish Research Project on the verification of chemical disarmament has been developing analytical disarmament techniques for use in the various tasks required by a convention on chemical disarmament. Verification tasks requiring chemical expertise are verification of destruction, of alleged use, of prohibition of development, and of non production<sup>17</sup>.

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15. "Chemical Detection System Now and Tommow", Military Technology 13(3), March, 1989, pp.48-52.

16. Ibid p.50

17. Miettinen, Jorma K., "Air Monitoring as a Means for Verification of Chemical Disarmament", Disarmament Vol xi, No.2, Summer 1988, p.68.

It is believed that "Airmatrix" offers several advantages. First of all, air is a good sampling matrix because agents are likely to be released into the atmosphere from all kinds of activities to be controlled under the Convention. Since the bulk of the air, that is, the permanent gases, need not be collected but passed through the sampler, traces of agents can be absorbed from large volumes of air on to a small volume of a suitable resin. Secondly, analytical methods with sufficient sensitivity to allow identification of trace amounts of agents in a high background air matrix are already in existence. Thirdly, the same methods like those being developed for the remote air analysis of chemical warfare agents can be applied to the analysis of industrial and urban pollutants. The dual applicability of the method offers the great advantage that support for their development can be obtained from several sources and the station network that is likely to be erected in the future can serve both purposes. A global network consisting of automatic airmonitoring stations, stationed 400-500 km apart, and selected stations capable of collecting and analysing high-volume samples would seem both adequate and realistic. Present developments in the meteorological observation technology will improve radically the possibility of tracking specific air masses and these can probably be developed into routine inspections within a few years, i.e., they could be operative when the Convention

enters into force. If monitoring stations were spaced 400-500 km apart, chemical warfare agents could be detected before major atmospheric transformation<sup>18</sup>.

The possibility that well-equipped and well trained inspection teams could detect traces of chemical warfare agents even after a site had been "cleaned up" may leave possible cheaters in the quandary of either denying access or risking discovery. Nonetheless, determinations of non-compliance on issues other than chemical weapons use may not be neat and simple. In addition, there are bureaucratic reasons to expect treaty compliance.

According to terms of CWC, inspectors may go for sensitive detection technologies like mass-spectrometer, and thus make it extremely difficult for violators to make a secret chemical weapons production site "clean" enough to prevent inspectors from detecting tell-tale chemical traces. Verification of the destruction of chemical weapons is the most difficult task that is envisaged in verification regime of the Convention. The overall issue of the verification of the destruction of a CW agent stockpile can be subdivided into the following components<sup>19</sup>.

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18. Ibid, p.74.

19. Reutor O.A. and Babjevsky K.K., "Some aspects of the problem of destruction of chemical warfare agents". SIPRI, Chemical Weapons Destruction and Conversion, (London, Taylor and Francis Ltd, 1980) p.128.

- i. the size of the stockpile;
- ii. the percentage of the stockpile to that destroyed and the rate of destruction; and
- iii. the possibility of confirming the rate of destruction.

An answer to the first problem can only be obtained by gathering the data, satellite observations, intelligence, estimates of the size of the chemical industry of a state. The CWC requires all the states to declare stockpiles under their possession. The second problem has also been solved with the provisions that all the existing stockpiles are subject to destruction in the ten years after the treaty enters into force. Inspectors will have unimpeded access to chemical weapons destruction sites such as the U.S. Johnston Atoll Chemical Agent Disposal System (JACADS) and Inspectors can also install on-site monitoring equipment to keep watch on the destruction process. Great care will, however, have to be taken to safeguard the military and industrial proprietary rights of nations.

## **POLITICS**

There are many possibilities for cheating. The verification regime for the CWC focuses on perhaps the least likely way of cheating, namely, using declared facilities for producing prescribed quantities of specified chemicals. On the other hand, there are no effective means of

verification that would prevent cheating by diverting commercial chemicals, developing non-classified agents, using covert production facilities or stockpiling hidden reserves of chemical weapons or bulk agents. Even these do not comprise a comprehensive list of possible ways of cheating CWC<sup>20</sup>.

Another important aspect regarding verification is political significance attached to it. Two different criteria are involved in assessing allegations or instances of non-compliance. The first is military significance and the second is political significance. Violating a treaty for some military advantage may make sense, depending on the calculation of risks and benefits. In essence, while all cases of non-compliance have political significance some have additionally military significance<sup>21</sup>. The CWC failed to look into this important problem of politicization of compliance disputes. The Bush administration strongly opposed explicitly granting the power to make such non-compliance determination to either the Executive Council or the Conference of the State Parties, preferring that they be left to individual states or grouping of states.

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20. Kathleen C. Bailey, "Problems with a Chemical Weapons Ban," Orbis, Spring 1992, p.241.

21. Lowenthal Mark, M, and Foel S. Wit "The Politics of Verification", William C. Potter (ed), Verification and Arms Control, p.3.

The challenge inspection regime of verification constitutes a politically sensitive concept which balances carefully the verification interests of a state party and of the international community and the interest of the inspected state party, to protect sensitive information not related to the CWC. It also balances national sovereign rights and the rights of the community of state parties as represented by the Executive Council and executed by the Technical Secretariat. Nonetheless, the convention provides for both the Executive Council and the Conference of the State Parties to address any problem of non-compliance. Resort to the UN Security Council in extremely dangerous situations is also a possibility.



COMMERCIAL ASPECTS

Disarmament is usually presented as being conducive to economic and social development. The cost of an aircraft carrier is, for instance, often compared with the number of schools and hospitals that could be built instead. Negotiated disarmament has nevertheless to take into account the economic and strategic imperatives of international security. There are several forms of disarmament, ranging from cutbacks in military spending to the destruction of weapons stockpiles or the scrapping of specific weapons; and they naturally have different economic consequences. In general, it may be said that while in the short run a slowdown in the arms race often has unfavourable economic effects, in the long run disarmament encourages development<sup>1</sup>

Disarmament does not necessarily in all cases bring about an immediate reduction in military spending. The destruction of arms stockpiles and verification of accords involve additional costs. Military expenditure of a country may not be reduced, though the country is participant in a

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1. Jacques Fontanel, "Investing in Peace", the UNESCO Courier, October 93, p.23.

disarmament or an arms control treaty. Rather it may lead to devising new weapons that are much more sophisticated and costly than those dealt with under the accords. A cutback in military expenditures does not necessarily result in an immediate improvement in a country's economic situation. Even if the actual expenditure can easily be switched to other purposes, the factories, staff and equipment previously devoted to defense are not so easily converted. To be viable, the conversion of existing materials and equipment will require new investment, the development of new activities and a search for new outlets in already highly competitive civilian sectors. One study on conversion aspects of chemical warfare industry suggests that, conversion to civilian industry requires considerable investment and it is wiser to close down existing agent production units completely<sup>2</sup>.

The costs incurred by the implementation of chemical weapons can be divided as follows:

- (a) costs of the destruction of chemical weapons;
- (b) costs of the destruction of chemical weapons production facilities;
- (c) costs of verification:

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2. Roberts, R.T., "Verification Problems - Monitoring of Conversion and destruction of chemical warfare agent plant in chemical weapons destruction or conversion, SIPRI, (London: Taylor and Francis Ltd; 1980) p.130.

- i. to ensure that activities prohibited under the convention are traced and checked;
- ii. to ensure that only the activities not prohibited under the convention are carried out;
- iii. challenge inspections<sup>3</sup>.

To carry out all the activities, the establishment of an international organisation becomes necessary. The proposed Organisation for the Prohibition of Chemical Weapons (OPCW) will be ready by the time the treaty enters into force. In addition to verification costs, this international organisation has to bear other costs including those for administration and maintenance.

Each country must pay for the destruction of its own chemical weapons stock - a cost expected to reach \$ 10 billion for Russia and \$ 7 to \$ 8 billion for the United States. States must also pay the annual operating costs of the OPCW - expected to reach \$ 150 to \$ 200 million during the busiest period of the treaty implementation, according to the UN scale of assessment<sup>4</sup>. In a working paper dated 24 August 1991, the U.S. delegation in the Ad-hoc Committee gave the annual costs of Organisation as \$ 163, 548, 185<sup>5</sup>.

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3. Hassan Mashadi, "The cost of the chemical weapons convention for the developing countries" Disarmament Vol.XVI, No.1, 1993. United Nations, p.81.
  4. Feinstein Lee, "Chemical weapons convention signed by 130 countries in Paris" Arms Control Today, January/February 1993, p.20.
  5. Hassan Mashadi, N 3, p.83.

Signatories must destroy their chemical weapons stocks and facilities within ten years, although a five-year extension may be involved in special circumstances. Destroying thousands of tons of chemical weapons and their production facilities will be a monumental and costly task. The U.S. experiences to date in trying to destroy some of its stockpiles provides an example. In 1985, Congress passed Public Law 99-145, which directed the Department of Defence to destroy old American unitary chemical weapons. This was to be done by September 30, 1994. However, in 1988 another deadline was extended to 1997 after some of the complex technical steps involved in the task were better understood. Even this deadline is unlikely to be met.

The first disposal site was built at Johnston Atoll, approximately 700 miles southwest of Hawaii, at a cost of approximately \$ 240 million. It had explosion-resistant bunkers and a remote controlled incinerator that burned chemical weapons components at 2700<sup>o</sup>F. The processes used have been under development since 1972 and under experimentation in a pilot-scale facility in Utah since 1979. In addition to the Johnston Atoll site, eight destruction facilities will be built in the U.S. Multiple destruction facilities, although more expensive than a single central site, will be used to minimise movement of chemical weapons across populated areas enroute to

destruction. Between 1985 and 1990, the planning and construction of the nine facilities cost \$ 1.1 billion. In 1990, an additional \$ 438 million was requested. It is expected that at least an additional \$ 3 billion will be needed to complete the project<sup>6</sup>.

For Russia, in dire economic straits, cost is the major concern. Moreover, it too has had difficulty meeting the environmental concerns of its citizens. An earlier plan to operate a destruction facility at Chapayevsk was abandoned because of local opposition. Currently, there are no firm plans for another facility. The U.S has promised to provide \$25 million in technical assistance to help start the Russian program, but the operational date for the first Russian facility is some years away. If Russia has difficulty in meeting the 10-year deadline for destruction, it can apply to the Executive Council for an extension of up to five years<sup>7</sup>.

If governments of each country monitor their chemical industry so as to assure the non-production of chemical weapons, the reporting of data to the OPCW and the

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6. Bailey, Kathleen C. 1991, Doomsday weapons in the Hands of Many. The Arms Control Challenge of the 90s, (University of Illinois Press, Urbana and Chicago), p.76-77.

7. Interview with Ambassador Stephen J. Ledogar" "The End of the Negotiations", Arms Control Today, October.92, p.10

international monitoring based on such data could be made simple as far as the chemicals of Schedule 2 and 3 are concerned<sup>8</sup>. The participating or signatory nations contribute to the expenses of an international monitoring body.

Verification is first and foremost a manpower intensive enterprise. The main purpose of on-site inspections, the major feature of the verification regime, is to allow human agents to verify compliance by counting, examining or otherwise observing Treaty-Limited Items (TLI) in close proximity. This requires a number of people of various types, including inspectors, escorts, linguists, aircrews and support personnel. Training, salaries, daily allowances and transportation costs for all of these people account for the majority of costs directly related to inspections.

The relative cost of manpower and equipment is largely a function of the level of technology or expertise involved. Inspectors are to be trained for different functions like understanding of chemical weapons producing facility design and good technical knowledge of chemical processing. Other CWC inspectors must be able to use sophisticated sampling and analytic equipment and still others must be trained to

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8. Lundin S.J.(ed), "Non-Production by Industry of chemical warfare Agents Technical verification under a CWC", Oxford University Press, (1988, SIPRI, CB Warfare Studies No.9), p.162.

glean relevant information from facility records. Inspection teams will have to include chemists, engineers and auditors all of whose skills command expensive salaries. The level of technology and expertise required by any verification regime is closely related to the type of treaty involved and its overall goals. Within treaties, too, some verification tasks require higher levels of technology than others. Inspections at commercial facilities require expertise and may involve extensive sampling and analysis. Inspections at CW storage facilities, however, may involve nothing more than opening of a sealed bunker and counting the munitions therein.

The impact of a given verification regime on civilian production facilities has a strong influence over its relative cost. Sources in the American chemical industry are concerned by what they perceive to be the chronic underestimation of the cost of implementing new regulatory mechanism that involve complex technologies. Hence they suspect that the costs of monitoring commercial compliance will be higher than assumed by officials<sup>9</sup>. Inspections at these facilities may require a great deal of planning, large-scale personnel readiness, training, shrouding of sensitive equipment, and in some cases facility shutdown. Costs for all these activities are greatly expressed in

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9. Brad Roberts, "Chemical Disarmament and International Security", Adelphi papers 267, (London: Brassey's, Spring 1992), p.32

terms of civilian man hours and are therefore relatively expensive. Facility shutdown may also require payment of fines or loss of incentives if it results in a failure to meet planned production schedules.

The high cost of monitoring production facilities under the CWC is less a function of the type of facilities inspected than of the sheer number of facilities inspected. The number of Schedule 2 facilities worldwide is largely unknown. Estimates have ranged from as low as one hundred to well over one thousand. The cost estimates assume one thousand such facilities, of which 250 are assumed to be in the United States<sup>10</sup>.

The cost of implementing the provisions of the convention in the United States plus the U.S. contribution to the international organisation charged with implementing them, have been estimated by the American Institute for Defence Analysis (IDA). For an assumed life span of 15 years, the estimated costs for various inspections at 1990 prices are:

- Data declaration and validation: \$ 160 million
- TLI elimination: \$ 130 million

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10. Klare Julia L, and Jeffrey H. Grotte, "Reducing cost while maintaining effectiveness in Arms Control Monitoring" ch.14 in James Brown (ed.), Challenges in Arms Control for the 1990s, (Amsterdam; VU, University Press, 1992), p.164.



- TLI production: \$ 130 million
- Potential TLI production: \$ 2500 million
- Undeclared facilities: \$ 37 million

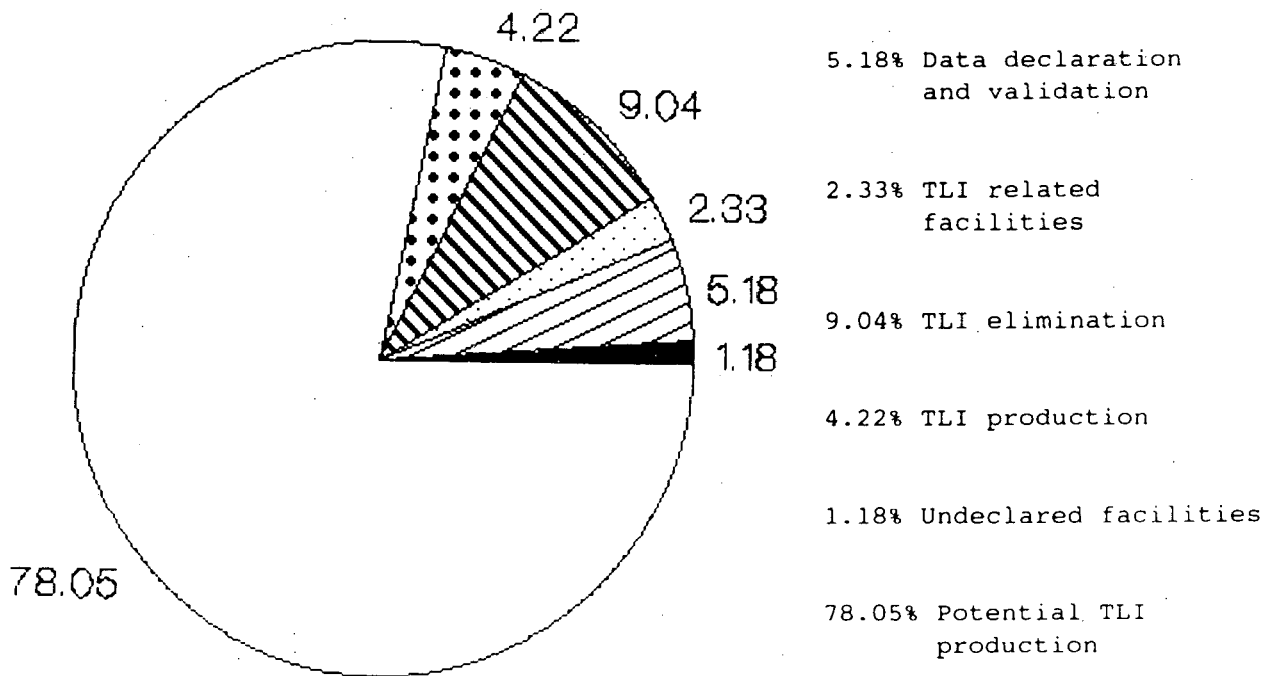
The total would be around \$ 3200<sup>11</sup> million. Costs shown here are direct inspection costs plus administrative overhead. Costs that are not included are R & D, analytical support including data management system development and maintenance and costs related to hosting of challenge inspections. The estimated costs of inspections of Schedule 2 facilities are \$ 230 millions for one hundred facilities. Still the cost of monitoring production facilities would comprise 51% of total CWC inspection costs.

The estimated cost of CWC inspections at production facilities does not include facility preparation costs for inspection of American facilities. This is because the Chemical Manufacturers Association (CMA), which has actively represented the United States chemical industry on arms control issues, has repeatedly taken the position that very little planning and preparation will be required for American facilities to host inspections and any cost that do result will be borne by inspected facilities as simply an added cost of doing business.

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11. Ibid, p.163.

The treaty verification costs for the United States devoted to inspections of different types are drawn in a pie diagram below:



Percentage of the Treaty verification costs devoted to inspection of different types<sup>12</sup>

From the above American estimates, where the costs of preparations for inspections etc do not matter much, inspections of Schedule 2 facilities only cost around \$ 575.

12. Ibid, p.166

million for the estimated 250 facilities. This is for a time span of fifteen years. The estimated Russian costs would be around \$ 10 billion<sup>13</sup>.

The CWC is by far, the most costly treaty to implement even though, the estimates shown above do not include the potential cost of facility impact in the United States. A number of factors contribute to make this so.

Inspection costs for a country will be increased by the requirement for National Authorities - Organisation within each participating countries that will serve as focal points for interaction with the International Organization and other states that are party to the CWC. National Authorities have the responsibility for supplying compliance data and assisting inspections. For example, National Authorities must collect and report a wide array of data on the number of chemical producing facilities and specific quantities of scheduled chemical each produces. For industrialized states with large chemical industries, the financial costs of establishing and maintaining a National Authority may be significant<sup>14</sup>.

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13. Herby, Peter., "Building the chemical disarmament regime", Arms Control Today, Sept. 1993, p.18.

14. Bailey, Kathleen C., "Problems with a chemical weapons Ban", Orbis, Spring 1992, pp.245-6.

In addition to financial costs borne by the governments, there are costs to industry. Some are not easy to quantify, such as the potential losses if inspections result in industry espionage. Other costs to companies are easier to quantify. During inspections, some or all chemical production will have to cease. Company officials will be taken away from their regular work to accompany inspectors and provide requested information. One study has estimated that companies manufacturing some types of chemicals controlled by the Convention will incur costs of on the average \$100,000 each in work hours lost to implementation of the CWC<sup>15</sup>.

As discussed earlier, the mission of the CWC inspectors is technically very demanding, requiring very sophisticated, expensive equipment. Inspectors will generally be technically trained civilians who can command relatively high salaries. Average equipment and manpower costs will, as a result, be higher for the CWC than for other treaties. In addition, the monitoring regime captures a large number of facilities relative to INF and START. It does not incorporate a quota system to limit the number of facilities inspected in a given year, therefore reducing cost. Infact, the draft treaty implies that all facilities for which a

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15. Beck, Herbert, "Verifying the projected chemical weapons convention: A cost Analysis", Peace Research and European Security Studies, AFES - Press Report 13, 1989, Mosbach, Germany, pp.91 and 247.

facility attachment is negotiated will be inspected once or more often in a year, depending on the type of facility. Finally, the establishment and organisatin of OPCW, will incurr a lot of expenditure.

So far, we discussed the direct effects of the Chemical Weapons Convention. There are additional indirect costs as well. The North, taking advantage of its economic, political and industrial dominance, seeks to achieve universality of chemical weapons convention through imposition of punitive measures for those which may decide to remain outside the Convention, while the South maintains that incentives should be given to states to enable them eagerly to join the Convention. The most important incentive for them is the hope than, while prohibiting any misuse or abuse of the chemical industry, the convention will provide cooperation and transfer of technology in the chemical field among the state parties<sup>16</sup>.

In those regions where chemical weapons have not proliferated it is possible that some states may feel that the costs and risks associated with the treaty are not warranted by any countervailing benefit in terms of moderating regional competition. Venezuela, for example, had

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16. Hassan Mashadi, "The cost of the CWC for the Developing Countries", Disarmament, Vol. XVI, No.1, 1993, p.82.

argued that no financial burden for the implementation of the disarmament regime should fall on those states which do not possess chemical weapons<sup>17</sup>. Those developing nations that either possess or are actively working towards an offensive chemical warfare capability will weigh the CWC differently. Their assessments of its costs and benefits are likely to reflect the various purposes to which these arsenals could be put.

The developing countries started their chemical industries in the mid-1960s with much emphasis on consumer industries. This caused them to become dependent on intermediate additives of refined chemicals of the developed world, which sometimes reached up to 80%. Some of the countries in the South whose national revenue mainly comes from agriculture which cannot produce so-called technical grade materials are vulnerable to restrictions imposed by verification mechanisms. Some of the concerns of the South are that there will be:

- (a) an unreasonable rise in prices of many chemicals, particularly the phosphorous ones, to compensate for the verification costs borne by the industries in the North;
- (b) reluctance regarding the transfer of technology in chemical products, particularly, in pesticides under the pretext that they may be used for chemical weapons production;

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17. Brad Robers, N.9, p.53.

- (c) creation of impediments in chemical trade due to an increase in red tape and in the decision making hierarchy;
- (d) decrease in the competitive markets and the possible establishment of giant chemical industry monopolies;
- (e) coming into existence of discrimination and suspicion in the international chemical trade; and
- (f) politicisation of a purely commercial or technological subject.

Other indirect costs are identified as huge regulatory costs for developing nations, non-accessability to new technologies for the developing nations, bureaucratic costs due to controls and obligations arising out of treaty implementation<sup>18</sup>.

The Convention's indirect costs can be minimised if trade restrictions are eliminated, prices of chemicals are not increased by industries, technology transfers are allowed, and financial assistance to developing nations is made available by non-governmental organisations to destroy the chemical arsenal or for national implementation of CWC.

Many developing countries still believe that some of the provision relating to routine inspections, challenge inspections and destruction of chemical weapons and their production facilities will be a costly and unnecessary burden on their economies<sup>19</sup>. Though, the problems of the mid

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18. Mashhadi, Hassan, No.16, pp.83-84.

east remain, developing countries supported the convention overwhelmingly. It may, whenever, be added that in the process of negotiations leading to the CWC, remarkable accommodation was shown by all participating nations in narrowing gaps between differing perspectives.

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19. Prakash Shah, "The CWC, A Third World Perspective" Disarmament, Vol.XVI, No.1, 1993, pp.95-6.



IMPLEMENTATION

The Organisation for the Prohibition of the Chemical Weapons (OPCW) is entrusted with all the responsibilities related to the implementation of the CWC. The idea of the body under the CWC emerged in the Ad-hoc working group on chemical weapons, (which later became Ad-hoc Committee on CW) during the period 1980-83. Most international organisations include a body of limited membership which meets more frequently, than the principal body and executes its decisions and assumes special functions as well<sup>1</sup>.

The OPCW is in some respects, similar to the International Atomic Energy Agency (IAEA); but it will have greater authority for overseeing the functioning of the CWC, than the IAEA has with respect to the NPT. The OPCW will be established in The Hague and may eventually have a large personnel. The OPCW is made up of three elements - the Conference of the State Parties, the Executive Council, and the Technical Secretariat<sup>2</sup>.

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1. UN, The Projected Chemical Weapons Convention, A Guide to the Future Negotiations in the Conference on Disarmament (New York, 1990) p.3
  2. The schematic organisational diagram for the prohibition of chemical weapons is in Appendix III.

## THE CONFERENCE

The Conference of the State Parties is the supreme body that oversees the broader aspects of the operation of the Convention. It will take action in cases of non-compliance and perform such administrative functions as appointing the Director General of the Technical Secretariat and approving the Organisations annual budget. It will meet once a year to oversee the operation of the treaty and whenever important matters requiring its attention may arise<sup>3</sup>. In cases of non-compliance, the Conference of the State Parties can restrict or suspend the offending party's rights and privileges, or can recommend collective measures such as sanctions. In particularly grave cases, the Conference may refer the matter to the UN General Assembly or the Security Council. The Conference will be composed of all state parties and each member will have one representative who may be accompanied by alternates and advisers. The first session will be convened not later than 30 days after treaty's entry into force.

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3. Article XV of the treaty text deals with convening the conference through amendment, Treaty Text, Report of the Conference on Disarmament, UN, New York, 1992.

Procedural matters require only a simple majority. Matters of substance should be dealt with by consensus where possible, but if not decided in 24 hours, they will be decided by a two-thirds majority. The Conference will adopt its own rules of procedure and elect a chairman and other officers at the beginning of each regular session. The Conference is the principal organ of the CWC and can consider any matter within the scope of the Convention, including the powers and functions of the Executive Council and the Technical Secretariat. Among its duties at the regular sessions are (a) to adopt reports, programmes and budget of CWC; (b) decide on the scale of financial contributions; (c) elect the Executive Council; (d) appoint the Director General of the Technical Secretariat; (e) constitute relevant subsidiary organs; and (f) direct the Director General to establish a scientific advisory board<sup>4</sup>.

#### **THE EXECUTIVE COUNCIL**

The Executive Council has a rotating membership of 41. Membership is based on equitable regional distribution, with certain number of seats in each region being designated for countries with the largest chemical industries. Each State Party has the right to serve on the Council and election

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4. SIPRI Year Book 1993 World Armaments and Disarmament (Stockholm, 1993), p.721.

will be for a two-year period. After much delicate negotiation, the following procedure for the distribution of seats on the Council was evolved.

- a) 9 state parties from Africa, 3 of whom have the most significant chemical industry;
- b) 9 state parties from Asia, 4 of whom have the most significant chemical industry;
- c) 5 state parties from Eastern Europe, 1 of whom has the most significant chemical industry;
- d) 7 state parties from Latin America and the Carribean, 3 of whom have the most significant chemical industry;
- e) 10 state parties from among West European and other states, 5 of whom have the most significant chemical industry; and
- f) 1 state party to be designated consecutively by state parties from Asia, and from Latin America and the Carribean<sup>5</sup>.

At the first election, 20 members will be elected to the Executive Council for one year. After full implementation of Articles IV and V<sup>6</sup>, the composition of Executive Council may be reviewed. The Council is an Executive organ of the Convention and functions in accordance with Conference, matters of substance being taken on the basis of a two-thirds majority.

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5. Ibid, p.722.

6. Articles IV and V deal with the schedule of destruction of chemical weapons and chemical weapon production facilities respectively.

The duties of the council are:

- (a) supervision of the Technical Secretariat;
- (b) co-operation with national authorities;
- (c) concluding agreements with states and international organisations with the approval of the Conference; and
- (d) approving verification implementation procedures.

It will have special responsibilities in the consideration of concerns relating to compliance and non-compliance. In cases of particular gravity, it can bring an issue to the UN General Assembly and the Security Council.

#### **TECHNICAL SECRETARIAT**

The Technical Secretariat, headed by a Director-General, will carry out the day-to-day activities of the OPCW, including managing and reporting of functions required by the Convention, organizing routine and challenge inspections and supervising the inspectorate. The functions of the Technical Secretariat will be:

- (a) negotiate agreements relating to implementation with the approval of the Executive Council;
- (b) establish stockpiles of supplies for emergency and humanitarines assistance required under Article X<sup>7</sup>;

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7. Article X of the text refers to emergency assistance to the State parties.

- (c) inform Executive Council of any problems, especially those relating to uncertainty about compliance; and
- (d) provide technical assistance to state parties concerning implementation of the CWC<sup>8</sup>.

The Technical Secretariat will comprise of the large number of inspectors and the technical and scientific personnel to implement the duties of the CWC. An inspection team will be made up of inspectors and inspection assistants as defined in the Verification Annex of the convention<sup>9</sup>. The cost and size of the inspectorate are still to be worked out.

#### **THE PREPARATORY COMMISSION**

As with any major arms control agreement, completing the negotiations is only the first step toward achieving the Convention's fundamental objectives. To ensure that the OPCW is prepared to carry out its responsibilities as soon as the Convention enters into force, the Paris signatories passed a resolution, negotiated along with the CWC itself, establishing the Preparatory Commission (Prepcom) for OPCW, with headquarters at The Hague. The resolution charges the Prepcom with "carrying out necessary preparations for the effective implementation" of the Convention, and with

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8. SIPRI, Yearbook, 1993, No.4, p.722.

9. Verification Annex, UN General Assembly, Report of the conference on Disarmament, UN, New York, 1992, pp.161-268.

preparing the first session of the Conference of the State Parties. In sum, the Prepcom is expected to do everything required "to ensure the rapid and effective establishment" of the OPCW<sup>10</sup>.

The Prepcom will lay the foundations for the Technical Secretariat, including such basic elements as identifying personnel needs, creating decision making flow charts, establishing administrative services, and projecting budgetary requirements. The Prepcom held its inaugural meeting from February 8 to 12, 1993, attended by representatives from '93 signatory states<sup>11</sup>. Now having completed more than one-fourth of the work through its expected two-year life span, the Prepcom has held three sessions. A list of the tasks the Prepcom is expected to undertake covers five pages in the text of the Convention. It has commenced the daunting task of endowing the CWC with a robust international monitoring organisation. The first three months of the Prepcom will cost an estimated \$1.8 million. The United States, Germany, Sweden, Australia, and other countries have contributed funds to get the Prepcom going. The UN assessment scale will be used to fund the

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10. Text on the establishment of a preparatory commission including Appendix is available in Draft Text UN General Assembly, Report of the Conference Disarmament, UN New York, pp.276-288.

11. Herby, Peter, "Building the chemical Disarmament regime", Arms Control Today, Sept. 1993, p.15

Prepcom and the OPCW. Many countries wanted to see that the OPCW won't become another bloated international bureaucracy<sup>12</sup>.

The first three months of the Prepcom's work were largely focused on the establishment of its own structures, and rules of procedure, the creation of a Provisional Technical Secretariat (PTS) and the adoption of the 1993 budget of \$ 8.8 million. The UN had agreed to make available \$ 500,000 for the first official session of the Preparatory Commission<sup>13</sup>. The PTS which began modestly in February with the appointment of British diplomat and chemist Iankenyon as its Executive Secretary, was expected to grow by that year's end into a fledging international agency with more staff.

On the administrative side, the Prepcom has undertaken the establishment of a permanent building in The Hague to house the OPCW. It is also training inspectors and developing the equipment. On the political level, it has recruited equitable, region-wise and balanced personnel for Prepcom and PTS etc. The Prepcom has other duties like making preparations for the first meeting of the Conference of state parties and selecting the Executive Council members from five geographical regions.

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12. Smithon, A my E, "Chemicals Destruction the Work Begins", Bulletin of Atomic the Scientists, April 93, p.40

13. SIPRI, Yearbook, 1993, No.4, p.730.



To be fully operational by early 1995, the Prepcom faces an even more formidable task - in establishing an effective verification regime. By late 1994, it will need to have recruited and trained a cadre of several hundred inspectors. This, in turn, will require an agreement by early 1994 on a host of detailed operational guidelines for routine and challenge inspections; and on, formats for declarations of industrial and military data relevant to the convention, training programmes for several types of inspectors, and continuous monitoring techniques for chemical weapon stockpiles and destruction facilities<sup>14</sup>.

According to Article VIII, the Prepcom is also recommended to develop draft agreements, provisions and guidelines for consideration and approval by the Conference of the State Parties. The essential organisational work has been done well, largely due to a talented but overworked Technical Secretariat and the contributions of a small number of delegations. By early July 1993, the Prepcom had largely completed the tasks related to its own structure and was beginning to deal with detailed operational needs of the CWC monitoring regime.

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14. Herby, Peter, No.11, p.15.

But as the Prepcom's plenary sessions have demonstrated, member states seem more inclined to deal with politically controversial issues than with the tedious work of regime building. Informally, Prepcom decisions are processed through regional groups representing Africa, Asia, Eastern Europe, Latin America and West European and other states. Each group nominates a Prepcom Chairperson for a rotating six-month period. The first Chairman was Ambassador Emeka Ayo Azikiwe of Nigeria, and was succeeded by Iranian Ambassador Sirous Nasser<sup>15</sup>.

#### **NATIONAL IMPLEMENTATION**

Individual states will also be required to take preparatory action in conjunction with a decision to adhere to the Convention. States adhering to the Convention, in accordance with their constitutional processes, will have to adopt measures to prohibit any persons over whom they have legal jurisdiction from undertaking any proscribed activity, and pass legislation to assure access to largest chemical facilities covered by the Convention. States will also have to extend their penal legislation by making it applicable, in conformity with international law, to any of its nationals anywhere who engage in any activity prohibited by

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15. Ibid p.16.

the Convention. Each state party must designate a national authority to serve as the focal point for liaison with the OPCW and other parties to the accord<sup>16</sup>. For example, some issues cannot be dealt with until the Russians are ready<sup>17</sup>. In the Prepcom, the domestic problems of Russia have brought the whole multilateral process to a standstill due to reasons related to destruction of existing weapons and costs involved in it.

One of the daunting challenges will be destructions of stocks of chemical weapons in an environmentally safe manner. This problem is of particular concern to Russia and the United States, which have the largest stockpiles. Anatoly Kuntsevich, the retired Soviet General who is in charge of the Russian chemical and biological weapons destruction programme, has successfully courted both funding and contracting expertise of the United States. Kuntsevich is remedying the fears of Russians who live near the three towns currently targeted for chemical weapons destruction by wooing them with promises of support facilities - housing, hospitals and laboratories. He also recommended to the

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16. Flowerree, Charles, C., "The chemical weapons convention, A mile stone in international security", Arms control today Oct'92. p.6.
17. Smithson, Amy E., "Conventional Wait", Bulletin of the Atomic Scientists, Sept'93, p.11.

Russian Parliament to delay in ratification of the CWC until there are assurances of financial assistances from external sources<sup>18</sup>. The American stockpile of some 30,000 agent tons is scheduled to be destroyed at the nine United States Army bases where it is located.

Global implementation of the chemical weapons convention presents an unprecedented challenge to governments, industry and the arms control community alike. Meeting the political and technical challenges involved in efforts to develop appropriate structures and implementing guidelines, while simultaneously promoting broad participation and early ratification, will require a strong and unflagging investment of political will and human, material and financial resources.

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18. Smithson, A.my E., "Chemicals Destruction: The work begins", Bulletin of the Atomic Scientists, April 93, p.42.

## CONCLUSION

The Chemical Weapons Convention, product of two decades of negotiations, possess a number of features that make it an outstanding achievement. For the first time, a treaty was hammered over through genuinely multilateral negotiations. The negotiation of an arms control agreement of such complexity and sophistication by an international body of 39 diverse nations can truly be counted as historic achievement.

Like all arms control agreements, the CWC cannot give complete assurance against small scale cheating. Nor can it guarantee an entirely chemical weapons - free world. It is possible that this objective may never be attained. It is also true that the CWC may not meet the maximum goals of participating states. The consensus on CWC, had come due to compromises made by nations for the betterment of mankind.

Nevertheless, world security will be immeasurably strengthened when this Convention enters into force. Its procedures and organization will offer many opportunities for progress in eliminating the danger of chemical warfare, in inhibiting the proliferation of weapons of mass destruction, and in providing a vehicle for confidence

building in areas of high tension. Its success will depend on several crucial parts of the regime working well - the administration, the funding, the control of exports, and the credibility of verification procedures, imperfect though they may be. The affordable destruction of chemical weapons is another essential pillar. Unless, this destruction is successful, the Convention will be still-born, and the opportunities it offers for a more secure world will be lost. Environment, economics, and politics are going to play a crucial role in the implementation of the Convention.

The concept of challenge inspections, the procedure of verification of chemical industries are novel achievements in the history of disarmament and are to be pursued carefully.

The leading industrialised countries of the world and non-government organizations should help the less privileged developing countries in technical support, financial assistance and destruction of chemical weapons and their production facilities. International body like United Nations should be able to provide incentives to the developing nations to join the treaty. The non-signatories' grievances should be heard sympathetically and efforts should be made to address their security concerns.

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# WIRELESS FILE

## FACT SHEET

March 23, 1994

### CHEMICAL WEAPONS CONVENTION SIGNATORIES/PARTIES

(The following fact sheet listing the 156 countries that have signed the Chemical Weapons Convention was issued by the U.S. Arms Control and Disarmament Agency on March 14.)

On January 13, 1993, in Paris, 130 countries signed the Chemical Weapons Convention (CWC). The CWC will ban the development, production, acquisition, stockpiling, retention and direct or indirect transfer of Chemical Weapons (CW). It also prohibits the use or preparation for use of CW and the assistance, encouragement, or inducement of anyone else to engage in activities prohibited by the CWC.

The CWC will enter into force 180 days after the 65th ratification, but not earlier than two years after signature; which means the convention could enter into force no earlier than January 1995. As of March 2, 156 countries have signed the CWC, of which four have ratified it.

### CHEMICAL WEAPONS CONVENTION SIGNATORIES

As of March 2, 1994

TOTAL = 156

Afghanistan

Albania

Algeria

Argentina

Armenia (Signed 3/19)

Australia

Austria

Azerbaijan

### SOURCE

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Bahamas (Signed 3/2/94)	Estonia
Bahrein (Signed 2/24)	Ethiopia
Bangladesh	Fiji (Ratified 1/20)
Belarus	Finland
Belgium	France
Benin	Gabon
Bolivia	Gambia
Brazil	Georgia
Brunei Darussalam	Germany
Bulgaria	Ghana
Burkina Faso	Greece
Burma (Myanmar)	Guatemala
Burundi	Guinea
Cambodia	Guinea-Bissau
Cameroon	Guyana (Signed 10/6)
Canada	Haiti
Cape Verde	Holy See
Central African Rep.	Honduras
Chile	Hungary
China	Iceland
Colombia	India
Comoros	Indonesia
Congo	Iran
Cook Islands	Ireland
Costa Rica	Israel
Cote d'Ivoire	Italy
Croatia	Japan
Cuba	Kazakhstan
Cyprus	Kenya
Czech Republic	Korea (Rep of)
Denmark	Kuwait (Signed 1/27)
Djibouti (Signed 9/28)	Kyrgyzstan (Signed 2/22)
Dominica (Signed 8/2)	Laos (P.D.R.) (Signed 5/12)
Dominican Republic	Latvia (Signed 5/6)
Ecuador	Liberia
El Salvador	Liechtenstein (Signed 7/21)
Equatorial Guinea	Lithuania

Luxembourg	Qatar (Signed 2 / 1)
Madagascar	Romania
Malawi	Russian Federation
Malaysia	Rwanda (Signed 5/17)
Maldives (Signed 10/4)	Samoa
Mali	San Marino
Malta	Saudi Arabia (Signed 1/20)
Marshall Islands	Senegal
Mauritania	Seychelles (Ratified 4/7)
Mauritius (Ratified 2/9)	Sierra Leone
Mexico	Singapore
Micronesia	Slovak Republic
Moldova (Rep of)	Slovenia
Monaco	South Africa
Mongolia	Spain
Morocco	Sri Lanka
Namibia	St. Lucia (Signed 3/29)
Nauru (Rep of)	St. Vincent and The Grenadines (Signed 9/20)
Nepal (Signed 1/21)	Swaziland (Signed 9/23)
Netherlands	Sweden (Ratified 6/17)
New Zealand	Switzerland
Nicaragua (Signed 3/9)	Tajikistan
Niger	Tanzania (Signed 2/25/94)
Nigeria	Thailand
Norway	Togo
Oman (Signed 2/2)	Tunisia
Pakistan	Turkey
Panama (Signed 6/16)	Turkmenistan (Signed 10/12)
Papua New Guinea	Uganda
Paraguay	Ukraine
Peru	United Arab Emirates (Signed 2/2)
Philippines	United Kingdom
Poland	United States
Portugal	Uruguay

Venezuela

Vietnam

Yemen (Signed 2/8)

Zaire

Zambia

Zimbabwe

vn

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 ( $\leq C_{10}$ , 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)
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-Chlorovinylchloroarsine (541-25-3)  
Lewisite 2: Bis(2-chlorovinyl)chloroarsine (40334-69-8)  
Lewisite 3: Tris(2-chlorovinyl)arsine (40334-70-1)

(6) Nitrogen mustards:

HN1: Bis(2-chloroethyl)ethylamine (538-07-8)  
HN2: Bis(2-chloroethyl)methylamine (51-75-2)  
HN3: Tris(2-chloroethyl)amine (555-77-1)

(7) 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 (78-53-5)  
and corresponding alkylated or protonated salts

(2) PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-  
1-propene (382-21-8)

(3) BZ: 3-Quinuclidinyl benzilate (\*) (6581-06-2)

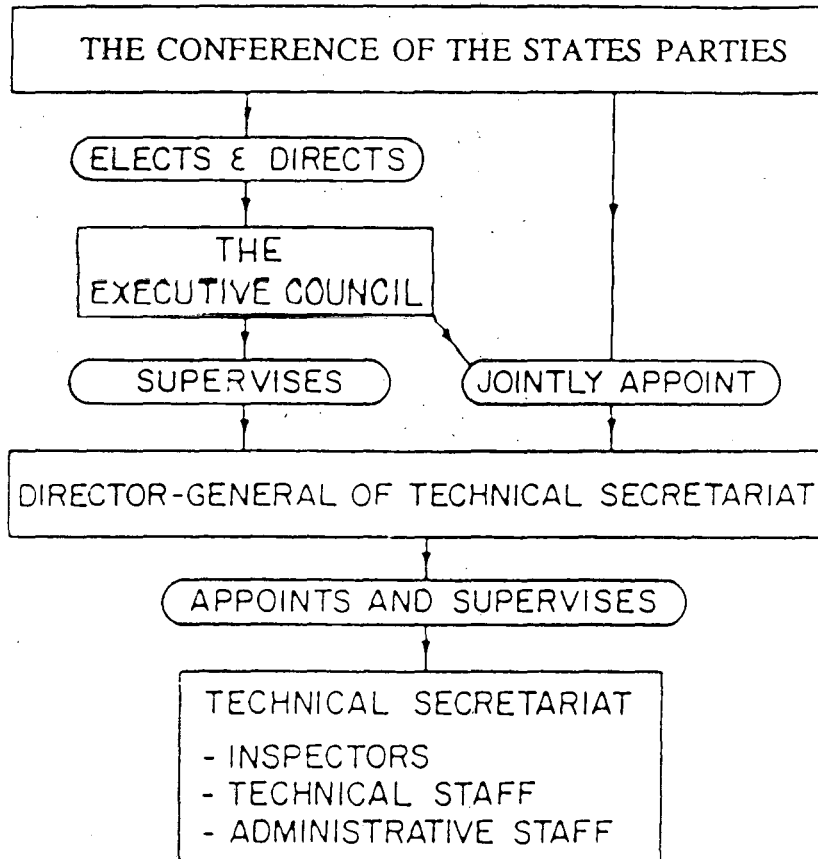
3. Precursors:
- (4) Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms.
- e.g. Methylphosphonyl dichloride (676-97-1)  
 Dimethyl methylphosphonate (756-79-6)
- Exemption: Fonofos: O-Ethyl S-phenyl ethylphosphono-thiolothionate (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 (108-01-0)  
 and corresponding protonated salts  
 N,N-Diethylaminoethanol (100-37-8)  
 and corresponding protonated salts
- (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)

APPENDIX I. SCHEMATIC DIAGRAM OF THE ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS (OPCW)<sup>1</sup>



<sup>1</sup> Taken with permission from: D. Scott, G. Alexandrowicz, A. W. Dom, M. Greenspoon, G. Morris, J. Hatfield-Lyon (Markland Policy Group), "Disarmament's Missing Dimension: A UN Agency to Administer Multilateral Treaties", Science for Peace/Samuel Stevens, Toronto, 1990. Not shown is the Scientific Advisory Board which the Director-General appoints and oversees.



APPENDIX - IV

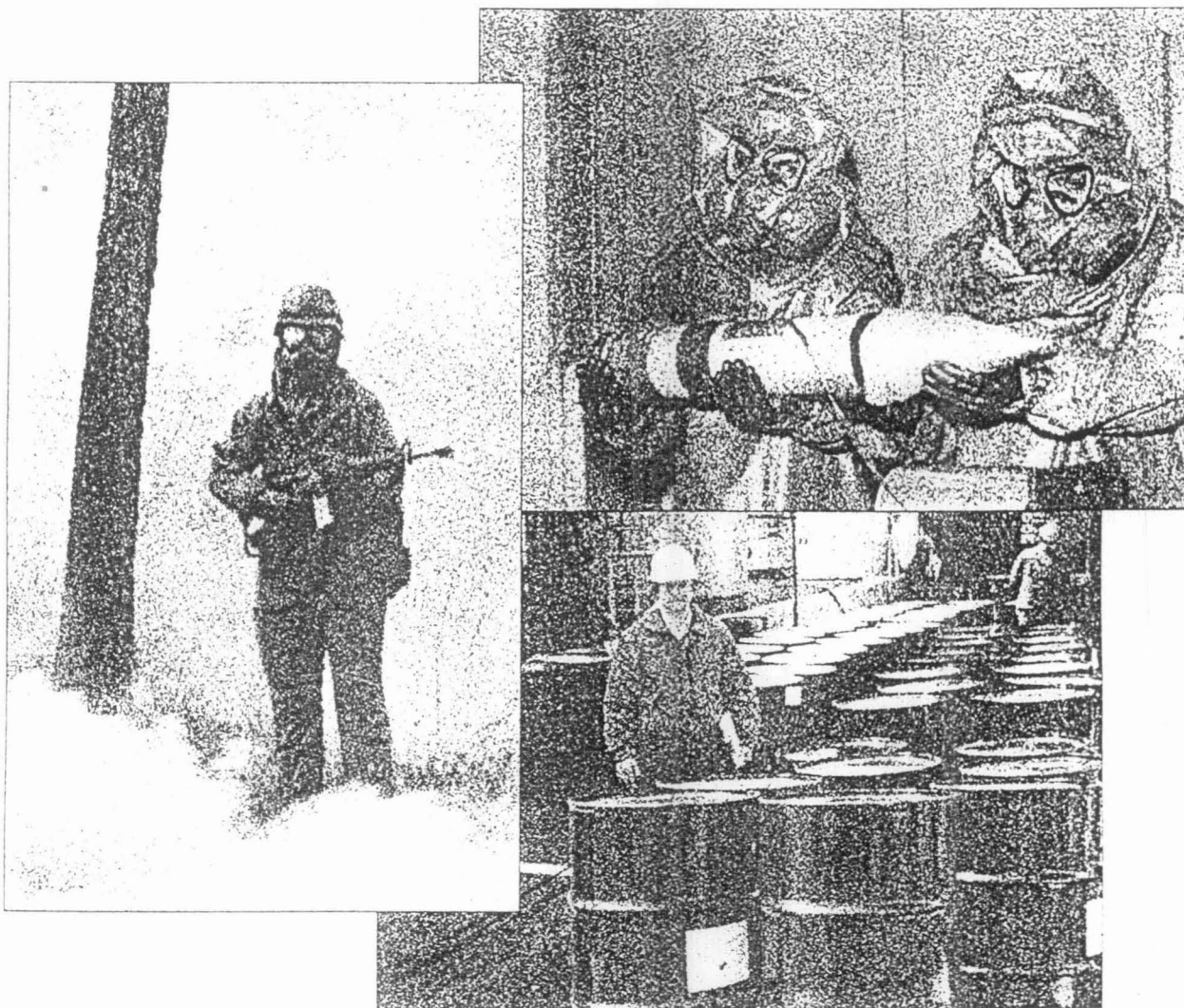
# Convention on the Prohibition of the Development, Production, Stockpiling, And Use of Chemical Weapons

## And on Their Destruction

PERSONAL  
AUTHOR .....  
TITLE .....  
SIGNATURE .....

12/20/93

### Summary and Text



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ARMS CONTROL TODAY OCTOBER 92 (cwe supplement Special)

# CWC Executive Summary

**T**he Chemical Weapons Convention (CWC) is a historic agreement, banning all chemical weapons worldwide and imposing wide-ranging inspections to verify that ban. The CWC goes far beyond the 1925 Geneva Protocol, which bans only the use of chemical weapons in warfare.

## General Obligations

Article I of the CWC prohibits all development, production, acquisition, stockpiling, transfer, and use of chemical weapons. Moreover, Article I requires each party to destroy the chemical weapons and production facilities it possesses, as well as any chemical weapons it may have abandoned on another state's territory. Using riot control agents such as tear gas "as a method of warfare" is also banned.

## Definitions

Article II defines "chemical weapons" as all "toxic chemicals" intended for purposes other than those permitted by the convention, which include peaceful uses, chemical protection, military purposes not involving toxic chemicals as a method of warfare, and law enforcement. "Chemical weapons" also includes these chemicals' precursors, the munitions and devices designed to deliver them, and any equipment "specifically designed" for their use in warfare.

Controlled chemicals are listed in three lists, or "schedules," laid out in Annex 1, which are subject to differing levels of verification. The guidelines for determining whether a chemical should be listed on Schedule 1 include whether the chemical has been stockpiled as a chemical weapon or otherwise poses "a high risk" to the objects and purposes of the CWC, and whether it has "little or no" permitted use. Examples of Schedule 1 chemicals include nerve agents and mustard agents. Guidelines for inclusion in Schedule 2 include whether the chemicals are other lethal chemicals and precursors which pose a "significant risk," and which generally are not "produced in large commercial quantities." The guidelines for Schedule 3 specify that it should include other chemicals and precursors that pose "a risk," but which are produced in large quantities commercially.

Riot control agents are defined as any chemical not listed in a schedule "which can produce rapidly . . . sensory irritation or disabling physical effects which disappear within a short time."

## Destruction

Article IV and parts of Annex 2 cover the provisions for eliminating chemical agents and munitions. Destruction of chemical agents, weapons, parts, and components based on Schedule 1 chemicals must begin within two years of the treaty's entry into force. At least one percent of such stocks must be destroyed within three years; 20 percent within five years; 45 percent within seven years; and the remainder within 10 years. Quicker destruction is mandated for chemical weapons based on chemicals included in Schedules 2 and 3. A state which cannot meet the deadlines may

apply to the convention's 41-member Executive Council for an extension of up to five years, which the council must approve by a two-thirds vote. For states that join the convention after the 10-year destruction period, the schedule for destruction will be determined by the Executive Council.

Each state is required to pay the costs of destroying its chemical weapons, including abandoned stocks on other states' territories. States are also obliged to shoulder the costs for verification, storage, and destruction of their chemical weapons—except in exceptional circumstances in which the Executive Council "decides otherwise." Each state may decide "how it shall destroy chemical weapons," but ocean dumping, burial, and open-pit burning are prohibited.

As is the case with the weapons, production facilities must be destroyed within 10 years, but the destruction must begin within one year of the treaty's entry into force. "All activities" at chemical weapons production sites must cease as soon as the convention enters into force, except for activities required to close the plants, which must be completed within 90 days. The costs of destruction, as well as the costs of verification, will be borne by the possessor state unless the Executive Council decides otherwise. Chemical weapons production facilities may be "temporarily" converted to destroy stocks of chemical agents and munitions, but the facilities must then be destroyed as soon as this destruction is complete. In "exceptional cases," with the approval of the Conference of the States Parties, a state may be permitted to convert a production facility to non-chemical-weapons uses. Converted facilities will be subject to on-site monitoring, and must be modified in such a way that they are "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."

## The CWC Bureaucracy

The Organization for the Prohibition of Chemical Weapons (OPCW), established in Article VIII, will administer the treaty. All states party to the treaty are members of the OPCW, to be headquartered in The Hague, and will pay for the costs of its activities according to the U.N. scale of assessment. Members of the OPCW two or more years behind on their payments lose their vote in the organization, unless the debt is "due to conditions beyond the control" of the state in question.

The OPCW is comprised of three organizations:

*The Conference of the States Parties*, which includes all the parties, is the "principal organ" of the OPCW. It meets annually and in special sessions when necessary. The conference can take decisions "on any questions" raised by the Executive Council or any of the parties, and has administrative responsibilities, such as electing members of the Executive Council and appointing the director-general of the Technical Secretariat. The conference has responsibility for taking "the necessary measures to insure compliance" and for redressing violations, as provided for in Article XII, which gives the conference the power to suspend a violator's "rights and privileges," or to "recommend collective measures," such as sanctions. In cases of "particular gravity," the conference

must inform the U.N. General Assembly and the U.N. Security Council.

The *Executive Council* has a rotating membership of 41 states chosen by the conference for two-year terms, distributed regionally. Countries with "the most significant national chemical industry" in each region will be represented on an essentially permanent basis. The Executive Council is the "executive organ" of the OPCW, responsible for overseeing implementation and operation of the convention. The council is directed to "consider" compliance concerns and "cases of non-compliance." If the country concerned refuses to "redress the situation," the council is to inform the parties and make recommendations to the conference. "In cases of particular gravity and urgency," the council must go directly to the U.N. General Assembly and the U.N. Security Council, bypassing the conference. The Executive Council also has the power to block a challenge inspection, if it determines by a three-quarters majority that the inspection request is "frivolous, abusive, or clearly beyond the scope" of the treaty.

The *Technical Secretariat*, headed by a director-general, is responsible for carrying out all the details of implementing and verifying the convention, including the sensitive task of negotiating arrangements for how inspections in each state shall be conducted. The Technical Secretariat is required to protect all confidential information it acquires from declarations and inspections.

## Verification

The convention will be verified through a combination of reporting requirements, baseline inspections, regular on-site inspections of declared chemical sites, and challenge inspections—which may be requested by any party to the accord. Many of the verification details remain to be determined by a Preparatory Commission. The treaty and its annexes, however, provide the outlines for this regime.

**Declarations.** Article III and Annex 2 require extensive declarations and openness. Within 30 days of the treaty's entry into force, parties must declare whether they possess chemical weapons or production facilities, providing precise locations and a detailed inventory. Also within 30 days, parties must provide a "general plan" for destruction of both chemical weapons and production facilities. States must also declare all chemical plants producing more than specified quantities of chemicals on Schedules 1, 2, or 3, and plants producing more than certain amounts of unscheduled organic chemicals. Parties must report whether they have received or transferred any chemical weapons since January 1946, and, if so, provide information about such transfers. They must also specify the types of riot control agents in their possession. Soon after the initial declarations, the Technical Secretariat is to carry out initial inspections at the declared sites.

**Inspecting Chemical Weapons Sites.** Chemical weapons facilities are subject to "systematic" inspections, although the frequency of such inspections remains to be determined. The Technical Secretariat must give 48 hours advance notice before a planned inspection of a storage site. Inspectors have the right to "unimpeded access" to all parts of the storage facility, including all the munitions and containers there, and any "specific buildings or locations" they choose. Inspectors have similar unimpeded access

rights at chemical weapons destruction sites. To monitor destruction, they have the right to use continuous on-site monitoring devices, to monitor sample analysis during destruction, and to receive samples from any containers at the site. At chemical weapons production sites inspectors also have unimpeded access rights, and may use seals to ensure that a facility is not being used. The Technical Secretariat may conduct up to four inspections a year at each chemical weapons production facility.

**Inspecting Permitted Chemical Production.** The intensity of monitoring at permitted chemical facilities depends on the sensitivity of the activity at each plant. The most scrutiny is applied to production of Schedule 1 chemicals, which is permitted for research, medical, pharmaceutical or protective purposes, but is tightly restricted. No party may have more than one ton of such chemicals on hand at any time. States are required to provide detailed declarations about such activities. While these facilities are to be subject to "systematic verification," the specifics remain to be determined.

Facilities processing more than certain amounts of Schedule 2 chemicals—10 kilograms, one ton, or 10 tons, depending on the chemical—are also subject to routine inspections, on 48 hours notice. While in principle all CWC inspectors are to have "unimpeded access," the access required at Schedule 2 facilities will be

determined after initial inspections of each facility, based on the risk that the facility poses to the objects and purposes of the convention. Inspection arrangements will be worked out in "facility agreements" for each site, to be negotiated between the host state and the Technical Secretariat, based on a model facility agreement.

The convention sets forth similar arrangements for Schedule 3 chemicals. Schedule 3 facilities must be declared if they contain a plant that produces more than 30 tons of such chemicals a year, and are subject to inspection if the facility produces more than 200 tons annually. Facilities producing other unscheduled organic chemicals must be declared if they produce more than 200 tons a year (or 30 tons, if the organic chemical includes phosphorus, sulfur, or fluorine), and are subject to inspection beginning in the fourth year after entry into force if production is more than 200 tons. At these sites, inspectors must give 120 hours notice, and no facility agreements are required. Inspectors will depend in part on the cooperation of the host state in granting them access to the specific areas and items they wish to examine.

Because of the vast number of plants worldwide caught by this net of routine inspections, the Technical Secretariat is required to "randomly select plant sites for inspection," based on equitable geographical distribution and the nature of the activities carried out there. No state is required to submit to more than 20 routine inspections a year, and no plant site must receive more than two routine inspections annually.

**Challenge Inspections.** Each party has the right to request an on-site challenge inspection of "any facility or location" if it suspects possible cheating. The requesting party submits a request simultaneously to the Executive Council and the director-general of the Technical Secretariat. Within 12 hours of receiving a challenge request, the Executive Council may block an inspection by a three-quarters vote, if it determines that the request is frivolous or abusive. The Executive Council's deliberations, however, "shall



not delay the inspection," as the director-general must proceed with the inspection process until or unless the council decides to stop it. The director-general must "dispatch an inspection team as soon as possible"—though the treaty sets no specific timeframe. The director-general is required to notify the inspected party at least 12 hours before the planned arrival of the inspection team.

The challenging country designates a perimeter of the site it wants inspected, which must run at least 10 meters outside any buildings or security fences on the site. The inspected state can propose an alternative perimeter—which, if negotiations cannot produce agreement, becomes the final perimeter—but it must include all of the challenged perimeter and must generally "bear a close relationship to it," meeting general criteria set out in the treaty. The inspected state must get the team to the alternative perimeter (or the final perimeter, if one has been agreed) within 36 hours of their arrival in the country, or 48 hours from when the state first received notice. On the perimeter, inspectors can use a wide variety of monitoring instruments; take air, soil, and effluent samples; and monitor traffic coming out of the facility.

Within 108 hours of their arrival—120 hours from receiving notice of the challenge—the inspected state must allow the inspection team into the originally requested perimeter. Once the team is there, the inspected state can use "managed access" techniques to protect "sensitive installations" and information. The inspected state can, among other things, remove sensitive papers, shroud computer displays, or restrict sample analysis to the presence or absence of chemicals controlled by the treaty. In addition, an inspected state may ask the inspection team to use "random selective access techniques," in which inspectors have access to only a certain percentage of the buildings on the site, chosen randomly. "In exceptional cases," an inspected state may choose only to give individual inspectors, rather than the complete team, access to a particular building. Indeed, while the inspected state must make "every reasonable effort" to demonstrate its compliance, once the inspectors are inside the perimeter, they must negotiate all their access rights with the inspected state. The inspection team's report, however, must include a discussion of the degree of access it was provided at the challenged site. Challenge inspections may not last longer than 84 hours, unless extended with the agreement of the inspected state.

There are also provisions for investigating the alleged use of chemical weapons. Such inspection teams have the right to inspect "any and all areas that might be affected," along with "hospitals, refugee camps, and other locations" they think are relevant, and to take a wide variety of samples.

### Carrots and Sticks

The Chemical Weapons Convention includes a variety of incentives to encourage states to sign up, including both "carrots" and "sticks." Defensive assistance is one incentive; states facing chemical threats or attacks are entitled to receive assistance, including defensive equipment such as sensors, protective clothing, decontamination equipment, and antidotes, and advice on chemical defensive measures. Each party able to do so is to contribute toward this end, either by contributing to a standing "voluntary fund" administered by the Technical Secretariat, or by agreeing to provide assistance in particular cases when requested. A country may receive assistance by submitting a request to the director-general, who must immediately inform all parties who have made voluntary commitments to provide immediate assistance, and who then must investigate and report to the Executive Council

within 72 hours. The Executive Council then has up to 48 hours to determine whether to send assistance, although the director-general is empowered to move more quickly when there is "sufficient proof that there are victims of use of chemical weapons and immediate action is indispensable."

Civilian chemical trade is another important area of incentives. Article XI encourages parties to the treaty to "participate in the fullest possible exchange of chemicals, equipment, and scientific and technical information . . . for purposes not prohibited." The convention does not bar states from imposing national controls on transfers of sensitive chemicals and technologies to other parties, but it does require them to "review their existing national regulations" with an eye toward removing export controls on parties in full compliance. The Australia Group, an informal chemical suppliers' cartel, has already announced that it will undertake such a review, potentially easing chemical trade for countries that join the CWC.

By contrast, transfers of all Schedule 1 chemicals to countries that do not join the treaty are strictly prohibited, and a similar ban on transfers of Schedule 2 chemicals begins three years after the convention enters into force. In the intervening three years, parties must get "end-use certificates" from nonparty buyers of Schedule 2 chemicals, specifying that they will only be used for permitted purposes, the type and quantity of chemical transferred, the use to which it will be put, and the name and address of the user. Similar certificates must be obtained for transfers of Schedule 3 chemicals to nonparties. Five years after the convention enters into force, the Conference of States Parties must consider whether more stringent controls on transfers of Schedule 3 chemicals are needed.

### Entry Into Force and Miscellaneous Provisions

The treaty enters into force two years after its opening for signature, or 180 days after the date of the deposit of the 65th instrument of ratification, whichever is later. The treaty is of indefinite duration. It contains the standard clause permitting countries to withdraw with 90 days advance notice if "extraordinary events" related to the convention have jeopardized "their supreme interests."

Unlike the Geneva Protocol, in which many countries reserved the right to use chemical weapons in retaliation, the main provisions of the CWC are not subject to reservations. The treaty annexes, however, are subject to reservations that are not "incompatible" with the object and purpose of the pact.

Amendments must be considered at an amendment conference, which can be called by one-third of the parties. An amendment is approved if no state objects and a majority supports it. Technical changes to the treaty's annex may be approved by the Executive Council if no party objects, or if there is an objection, by a two-thirds majority of the Conference of the States Parties.

Each party is required to pass national implementing legislation, making it illegal for individuals on any territory under its control to conduct prohibited activities, imposing similar limits on its citizens, wherever they may be, and creating a national authority to deal with the OPCW.

None of the convention's provisions limit herbicides, such as Agent Orange, but the treaty's preamble refers to the Environmental Modification Treaty's ban on the use of herbicides in war.

—Lee Feinstein

*A complete copy of the Chemical Weapons Convention with its annexes is available from the Arms Control and Disarmament Agency.*

# Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons And on Their Destruction

## 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-paragraph (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, has been submitted, provide access to chemical

weapons specified in paragraph 1 for the purpose of systematic verification of the declaration through on-site inspection. 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 these 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.

### Article 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 fulfill 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 fulfill 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 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.

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 ten States Parties, five 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 National 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 entrusted 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 see 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 fulfill 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 fulfills 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 problems 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 para-

graph 5.

2. The test 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 as 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 test 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 fulfills 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 fulfills 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.



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